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TABLE OF CONTENTS

Editorial Note 132

A Quantitative Approach to Affective Symbolism in Rorschach Responses
George DeVos 133

Maternal Behavior and Child Personality: A Rorschach Study
Fannie D. Montalto 151

The Use of the Rorschach in Preventive Mental Hygiene
Pauline G. Vorhaus 179

Brief Reports

An Analysis of the Effect of the Test Situation Upon the Rorschach Record: Formal Scoring Characteristics
Ethelyn Henry Klatskin 193

The Lowenfeld Mosaic Test
Margaret Lowenfeld 200

Preferences for Rorschach Cards
Mildred B. Mitchell 203

Analysis of Group Rorschachs of Psychologists and Anthropologists
Anne Roe 212

An Analysis of Patient-Examiner Interaction with the Szondi Pictures
I. W. Scherer, J. F. Winne, H. A. Page and H. Lipton 225

The Behn-Rorschach Inkblots: A Preliminary Comparison with the Original Rorschach Series
Jerome L. Singer 238

American Versus English Mosaics
Ursula G. Stewart and Lorraine A. Leland 246

A Further Study of the Validity of Human Form Drawings in Personality Evaluation
Murray Wexler and Jules D. Holzberg 249

Prediction in the Rorschach Test
Frederick Wyatt 252

Book Review

The Individual through the Rorschach by Paul Maslow
Mortimer M. Meyer 259

The TAT Newsletter 260

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EDITORIAL NOTE

The *TAT Newsletter* was begun by Dr. Robert R. Holt of the Menninger Foundation in 1946. He edited and published the *Newsletter* until its incorporation into the Journal in 1949 at which time he discontinued separate publication but remained its editor. Under his editorship the *Newsletter* flourished since its inception. Unfortunately the pressure of Dr. Holt's own work has necessitated his resignation as editor of the *Newsletter* but he has consented to remain an Associate Editor of the Journal. We wish to take this occasion to express to Dr. Holt our appreciation for his work and our admiration of the job he has done. Dr. Leopold Bellak, has written us a tribute to Dr. Holt which we wish to reproduce:

> "I wish to express gratitude and appreciation for the job which Dr. Holt has done with the *TAT Newsletter*. He has not only fulfilled the technical requirements of disseminating most useful information to coworkers on the TAT, but with a light touch so frequently missing in technical literature he has made the *Newsletter* a pleasure to read and has contributed an effective tie which united us all as a research team."

To this testimonial, the Editorial Committee of the Journal wishes to add its wholehearted concurrence.

We should like to take this opportunity also to welcome Dr. Edwin Shneidman, one of our Associate Editors, as the new Editor of the Newsletter. He is known to many of you through his work with the TAT and MAPS.

It is with regret that we inform the membership that Florentine Hackbusch, Secretary of the Society, died on June 3rd after a brief illness.

THE EDITORS

A Quantitative Approach to Affective Symbolism In Rorschach Responses

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INTRODUCTION AND PURPOSE

This paper is an attempt to meet the need in Rorschach research work for an explicit, reliable, and clinically valid scoring system for the affective symbolism found in the content material of Rorschach responses.[1]

Within the limits of the scoring system now used the Rorschach test results in the area of symbolic content cannot be summarized or compared in explicit quantifiable fashion as can the form, location, and other possible determinants of a response. In spite of this lack of formal scoring, inferences concerning the symbolic meaning of Rorschach responses are extensively used as an essential part of the complete clinical evaluation of a record.

Such inferences concerning affective symbolism are usually based on the assumption that underlying tensions in the affective structure of an individual determine the affective value of a percept as well as its more formal characteristics. Many responses are therefore apt to have symbolic value relating to these tensions. For example, one individual can see two figures as dancing while another sees them as fighting. Customarily, one would score these two responses identically, yet it is apparent that the underlying feelings in the two cases are different. This paper proposes a system of scoring these affective differences in responses.

At present, the clinician may note in an impressionistic fashion the presence of symbolic expressions of various types such as those pertaining to anxiety, hostility, or even positive feelings, in the content of the responses. Since the clinician does not ordinarily state explicitly the source of the impressions in some formal summary there is little possibility that another examiner would reproduce

[1] This system of scoring was developed in the course of research comparing the Rorschach records of a random sample of 140 first and second generation Japanese Americans in the Chicago area with groups of normal, neurotic and schizophrenic Americans. The American samples were made available to me by S. J. Beck and his associates at Michael Reese Hospital. The results of this study are to be published in a forthcoming dissertation (DeVos, 1951).

Some of the results of research with the normal sample (which consists of individuals on all occupational levels of a major Chicago department store) can be found in Beck, et al. (1950).

Dr. William Thetford of Michael Reese Hospital collaborated with me in revising the affective categories. He scored some of the records according to the notational system, and assisted in validating the results obtained on the normal, neurotic, and schizophrenic control groups used. This study was considered as a possible contribution to present research on the psychological aspects of schizophrenia conducted under a Public Health Service grant to Dr. S. J. Beck and his associates at Michael Reese Hospital.

Encouragement and counsel on various aspects of this study have also been given by Dr. Alan Rosenwald and Dr. David Shakow of the Illinois Neuropsychiatric Institute, Dr. Sheldon J. Korchin and Dr. S. J. Beck of Michael Reese Hospital, Dr. Charlotte Babcock of the Institute for Psychoanalysis, and Dr. Donald Fiske of the Department of Psychology of the University of Chicago.

results in a similar fashion. Furthermore, examiners may tend to interpret symbolic content somewhat differently from one another. Therefore there is little possibility that symbolic data on groups gathered by separate examiners can be adequately compared. The result has been that group studies either avoid the area of symbolism entirely or the findings are limited to vague suggestions of possible differences. No formal statistical check can be given to such impressions.

Although several authors in the Rorschach literature (Abt & Bellak, 1951; Elizur, 1949; Lindner, 1944; Schachtel, 1941; Rapaport & Schafer, 1946) have offered cogent suggestions about the symbolic value of certain content items, no one has made an attempt to systematize this material so that all content could be dealt with in an inclusive standardized system. Only one author seems to have made a systematic attempt to quantify certain affective categories found in the content of the Rorschach. Elizur (1949) has devised a system of rating underlying hostility and anxiety tensions in Rorschach responses so that some definite score could be given a record in regard to these affects. Elizur found that his scores differentiated at the 1% level between matched normals and neurotics. His scores correlated from .45 to .74 with other evidence for anxiety and hostility found in questionnaires, self-ratings, and interview material. The present report presents a method of scoring which, while somewhat similar to Elizur's approach, attempts to be more inclusive, and also more descriptive of the way particular affect is expressed through content symbolism.

The overall objective held in mind when developing the system discussed below was to establish a series of notations regarding affective symbolism. This series would form a fourth column of scores that could be summarized as readily as the usual notations concerning location, form and content. This objective was approached as follows: 1) By grouping affective content into major categories such as anxiety, hostility, positive feelings, dependency, etc.; 2) By subdividing a major category such as hostility into more precise subcategories so that particular notations can be made of the various modes of major affective tensions manifested through symbolism; 3) By summarizing the responses that are subsumed under each major category into a numerical index (See Table IV).

It must be noted that the various affective categories and subcategories are concerned with *symbolic* expressions of affect through the *content* of the responses and are not concerned with other expressions of affect apparent in the handling of the cards, response time, relationship to the examiner and testing situation which are also used as valid indicators of affect.

The inferences and assumptions behind each subcategory are not tested in the present study. The various assumptions regarding the symbolic meanings of various responses are culled from Rorschach as well as psychoanalytic literature. The system of thought behind the scoring is that applied to dream analysis in psychoanalytic practice. These assumptions will eventually be tested and verified, modified, or disapproved, through controlled research. Such validation of assumptions is a difficult task, and has in fact, never been applied to many of the generally accepted assumptions used in Rorschach work. In the area of affective symbolism

one must first explicitly present such a set of assumptions in a systematic form thus making their use less impressionistic and more subject to eventual verification. Until adequate means are found to accomplish these ends to the satisfaction of all objective critics, the sensitivity, experience, and good judgment of respected clinicians in psychiatry and psychology must serve as good guides in working with symbolism.

CATEGORIES OF AFFECTIVE INFERENCES

The major categories of affect.

The first objective in quantifying affect is to find a number of major categories of affective expression. The following general categories of affective responses were found to occur with sufficient frequency to be considered as separate major categories:

1. *Hostility.* This category includes responses indicative of underlying hostile tensions.

2. *Anxiety.* This category includes content responses indicative of both directly felt anxiety as well as various symbolic referents to underlying anxiety in relation to various intra-psychic difficulties.

3. *Bodily preoccupation.* This category includes responses that suggest the binding up of affect in bodily concerns. Sexual responses are included in this category. Primitive narcissistic fixation or regression of affect is often suggested by bodily preoccupation responses.

4. *Dependency.* This category includes responses suggestive of a dependent quality in the affect.

5. *Positive feelings.* This category includes responses of a positive nature referring to food, sensual pleasure, recreational activities, or the beauties of nature, etc.

6. *Miscellaneous.* This category includes some subcategories of affect not readily classified under any of the above groups.

7. *Neutral.* This category includes responses in which affective symbolism is minimal or so tenuous that they may be classified as neutral in affective tone.

The subcategories of affective inferences.

A second objective in quantifying affect is a notational system that would record not only grosser categories of affective expression, but would consider some of the finer nuances of affective expression found in the symbolism. Each of the major categories noted above was in turn divided into subcategories that could record more precise inferences as to how affect is expressed, blocked or toned in the content symbolism. A capital letter for each major category followed by an abbreviation of two or three letters representing the nature of the subcategory was utilized in the system of scoring.

1. Hostility
   - Hor — oral aggression
   - Hdpr — hostile depreciation
   - HH — direct hostility percepts
   - Hh — indirect hostility
   - Hha — indirect hostile—anxious responses
   - Hhat — indirect hostile—anxious tension responses
   - Hhad — hostile—anxious, deformities, lost parts
   - Hsm — sado—masochistic responses
2. Anxiety
   - Adis — disgust, oral, tactual
   - AA — direct expression of anxiety feelings
   - Aa — indirect anxiety
   - Afc — anxiety expressed through concern with faces
   - Aev — evasive responses
   - Arej — card rejection
   - Agl — depressive, concern with dead objects, cold or ice
   - Abal — concern with balance or precarious position

Acon	expression of confusion
Adeh	dehumanization of usual human percepts, seeing parts rather than whole figures
Asex	confusion over the sex of figures
Ahyb	hybrids of animal, vegetable and human parts, mythological creatures

3. Bodily preoccupation

Bb	bone anatomy
Bf	flesh anatomy
Bs	sexual anatomy (internal structures)
Bso	genitals, intercourse
Ban	anal or fecal responses
Bdi	disease or decomposition
Bch	pregnancy or childbirth, menstruation

4. Dependency

Df	fetal, embryonic or infant responses
Dor	oral dependent responses
Dcl	clinging or hanging responses
Dsec	security needs, hearths, houses, castles, caves
Dch	childishly toned responses
Dlo	longing, reaching responses
Drel	religious responses
Daut	authority symbols

5. Positive feelings

Por	oral pleasure responses, food
Ps	sensual, tactual responses, pleasure in contact, kissing, rubbing, warming
Pch	pleasure in childish activities
Prec	recreation, music, cultural activities, games
Pnat	pleasure in natural beauty, scenes, flowers, pretty birds
Porn	pleasure in ornaments, vases, designs, created objects

6. Miscellaneous

Mst	striving responses
Mor	oral responses not categorizable under Hor, Adis, Dor, Por
Mnar	narcissistic responses, mirrors, overconcern with clothes
Msex	responses of veiled sexual interest, underclothes
Mip	responses showing intellectual pretentiousness
Mi	Indeterminate responses showing affective implications

7. Neutral

N	neutral responses

Criteria For Scoring Affective Inferences

The following section defines each of the categories and sub-categories so that adequate reliability can be obtained by examiners in using the system herein outlined. This system should be followed except when there is strong evidence for a unique inference other than those suggested below. In spite of some possible difficulties, the system now suggested is a workable way of putting down on paper many of the clinical inferences Rorschach examiners generally use in forming their final diagnoses on the basis of the total record.

Evidence validating the use of scores obtained on the major categories as differentiators between normal, neurotic, and schizophrenic groups, as well as the reliability of summary indices based on them is demonstrated in the next section. No tests of reliability have so far been applied to the individual subcategories. Inspection indicates that certain subcategories entail considerable difficulty in judgment, at least when first used by an examiner. The subcategories will no doubt be modified in the light of further research.

The interpretation of the symbolic meaning of a response is a complex problem. Rather than trying to resolve the difficulty inherent in projective tests that deal with different levels of consciousness, the purpose of this scoring system is to provide a means for objectifying and organizing many of the impressions of the examiner. In this way they appear in the protocol summary in some sort of systematic fashion. Proper categorization of a response (which can be scored as a blend in certain cases) is not solely dependent on the conscious attitudes of a subject toward his response. The very nature of a symbol depends on the working of unconscious processes.

One of the ways that additional data may be obtained concerning

the possible meaning of a response is through the use of inquiry procedure. A careful, non-suggestive inquiry can help assess the more conscious feelings of the individual in reference to certain responses. At times such inquiry may reveal that the subject's use of a symbol is not the usual one attributed to it. Lacking direct evidence of affective tone, responses can be scored according to the usual feelings, or defenses against feeling, assumed to be associated with the response. In many cases unconscious symbolism will be present and the response can be scored according to our present knowledge of such symbolism.

I. *Hostility*. There are numerous responses in which both hostility and anxiety are present in the same response. Tension in an individual over hostile impulses is usually accompanied by a considerable amount of anxiety. A response is scored hostile if a hostile element is more definable in the response. Responses to be scored under anxiety are those in which the hostile elements are secondary or minimal. Some difficulty lies in determining the major identification of the subject when one figure in a response is seen attacking another. In such cases the anxiety component usually seems the stronger and careful questioning may bring out a manifestation of direct anxiety. However, a blend may be indicated in some of these responses.

1. *Hor*. Oral aggressive responses. These are responses in which the teeth are used in an act of biting. Some anxiety may accompany these responses; if sufficiently strong a secondary scoring of anxiety should be made. The following are examples:

Couple of caterpillars eating something; fish eating the head of a frog; a pig embryo with milk teeth . . . they have to cut off their teeth sometimes because they hurt their mothers (score Hor. Df.). (See below under Dependency); dead tree, the roots have been eaten away by something (Hor. Agl.). (See below under Anxiety); two beavers trying to gnaw the roots of a tree.

2. *Hdpr*. A depreciation or dehumanization of figures that implies indirect hostility. This scoring is to be distinguished from Adeh. (see below under Anxiety) which implies that when human figures are not seen where they are usually seen by others it is due to the effect of anxiety. The motivation in this case is thought more likely to be anxiety than a hostile feeling toward people as in Hdpr. There is also the category Ahyb (see below under Anxiety) in which there is a combination of human, animal or plant elements in a response that may in some cases have a hostile motivation, but in which anxiety plays the major role.

The Hdpr. response is often qualified by such adjectives as "silly" "awkward" "foolish," etc. Percepts such as clowns (without a circus or festive atmosphere), minority group members, cartoons, drunks, and caricatures usually have a depreciatory value.

Birds dressed in men's clothes; looks like a cartoon or caricature; drunks hanging with one arm to a lamppost; two women giving the bumps, there seems to be something on the hind part of the skirt so they can't come apart. What they're saying, 'I'll go my way and you go my (sic) way and I hope we'll never meet again,' (Hdpr.); this is a man flat on his back sleeping, snoring, his mouth is open; two women dancing, kind of overdressed . . . almost could be witches, they're riding on brooms (Hdpr. Hha-Dch.); a crying ridiculous old man; a prim moralist, commiserating for sins; a fat woman, dowager; two old maids, clinging to a pillar (Hdpr. Dcl.); two pot-bellied gargoyles (Hdpr. Aa.); woman working at an object looking at it again,

it doesn't look human, too ugly; two Negroes discussing.

3. *HH.* Direct hostility expressed. Fighting, conflict, argument.

A regular street fight; two prehistoric animals fighting, (HH. Aa.); a couple of fighting cocks; two animals trying to kick at a tree; two prize fighters. Looks like figures pulling against each other, tearing a cloth apart (HH. Hsm.). Two wild wolves ready to attack a bat on the mountain side (HH. Aa.). A spider about to catch a little leaf hopper (Aa. HH.).

4. *Hh.* Indirect hostility, weapons, fires, knives. Responses that have a hostile implication of some indefinite sort.

Forest fire; spears used by Indians; a dog's claw; ducks bumping their heads; a tank.

5. *Hha.* Indirect hostility-anxiety responses. Certain mythical figures. Weapons of a cutting variety, such as pincers and clamps, may suggest an underlying "castration" threat. Blood unrelated to other content. (If blood appears in another context it is scored differently. When related to anatomical content, score it Bf. When inquiry indicates a phobic reaction, e.g., disgust, this is more adequately scored under Adis.)

An alligator's head; worms with pincers; scissors; elephants, noses tied together; a man's gas mask; people, hands tied together; a witch with long nails (Hha. Dch.).

6. *Hhad.* Distorted figures, or figures with parts missing.

A distorted dog, body twisted; a big gorilla sitting there, head missing, torso without arms; wolf without a tail.

7. *Hhat.* Responses indicative of inner tension.

Eruption of a mountain, volcanic eruption; a nozzle shooting flame; atomic bomb explosion, cloud (Hhat. Aa.); an incendiary bomb; a spinning top; a jet plane.

8. *Hsm.* Sado - masochistic responses. These include responses wherein there is some violation of living tissue. By analogy this category also includes responses like ripping cloth.

Aftermath of an operation, a huge suture; bat with a wing shot off or torn off; part of a frog being dissected; smashed insect; reminds me of a dissection; lower portion of the brain,. a dissection (Bf. Hsm.); head of a dead dragon cut in half and flattened out; a wolf that looks flattened out like by a car; a cut and opened bear rug (the nature of the description here necessitates scoring response Hsm.); looks like a section of the heart cut open; roosters with their combs pulled off; a piece of blue cloth, looks like it has been ripped (Hsm.).

II. *Anxiety.* Other signs of anxiety like card turning which express anxiety in other than symbolic fashion are noted marginally in the record and are not scored as an anxiety response. However, card rejection itself is considered an anxiety response to the card and so scored (see below).

9. *Adis.* Disgusting material, phobic material with either oral or tactual connotations.

A furry spider (in inquiry expressed disgust); a dirty color; a splotch of mud, looks dirty; looks like a slimy reptile.

10. *AA.* Direct anxiety. Figures that are directly threatening and fearful to the individual perceiving them; fearful scenes.

Petal of a death flower opening to catch some insect; butterfly in flight, looks like an unknown from another world; looks like a Halloween cat; looks like the face of a devil or something, some monster face with pink ears. Devils, with a fire burning; eyes here, peering out at you; witches like a Halloween nightmare (AA. Dch.). Like the fires of hell, swirling clouds; weird sea monster like you'd see on the bottom of the ocean; a dragon's head . . . massive, lots of hair; this looks like a mask, grotesque, face of an animal; this is full of shadows in here, I can't make out what it might be. Something fearful; huge bird clutching in toward this figure of a man here.

11. *Aa.* Indirect anxiety. Figures suggestive of anxiety or usually deemed phobic in nature. Clouds,

shadows, x-rays, parts of bodies such as eyes, pointing fingers, arms and hands are indicative of some underlying concern. Protuberances seen in small details around the edge of the card can be inferred to be indicative of castration fears. This category also includes percepts in which the expression of anxiety is deemed not sufficiently direct for a scoring of AA.

A wild boar, its face; a mask; a jack-o-lantern (this response, in addition to some of the following, can be scored AA if the inquiry indicates); baying wolves; an unknown marine species pulled out of the water; a giant ray; a gorilla; smoke, like from a fire; an x-ray. (It may be helpful to score a blend in some cases e.g., x-rays, to emphasize the anxiety.) Fish with dorsal fin spread out as if in flight; an animal running away from something; organic material like an amoeba; icy feeling like an iceberg; a rat, long tail; a pointing hand.

12. *Afc.* Faces or profiles in unusual details (Dd) indicative of underlying feelings of anxiety regarding human relations.

Profiles; a bearded man; a woman's face here.

13. *Aev.* Evasive responses. Vague maps or "splotches." The subject is seemingly disturbed by the blot and seeks to evade involvement through becoming vague.

A map; like red ink spilt; a diagram of something.

14. *Arej.* A rejection of the card. Card rejection is indicative of anxiety, as well as a way of handling anxiety. Although not a response in the conventional manner of scoring, it is herein scored as an anxiety response.

15. *Agl.* Responses emphasizing gloom or sadness, dysphoric feelings. Cold, ice responses.

This looks dull or lifeless, like a dead leaf; eroded soil, barren and sterile; a dead branch. An iceberg.

16. *Abal.* Lack of balance or instability verbalized as part of a response.

This looks like two animals balanced precariously on a rock; this looks like a man climbing a mountain, he is reaching across to someone else, he seems to be slipping; instability spreading out all over the place; a mouse treading precariously.

17. *Acon.* Confusion or indecision verbalized as part of a response.

A group of insects milling about not knowing what to do; the whole thing represents confusion to me; two insects don't know which will go up the pole first—they look bewildered (Acon. Mst.).

18. *Asex.* Confusion over the sex of a figure; inability to see it as masculine or feminine.

I can't make this out, can be either men or women; two figures (?) I can't tell, high heeled shoes, yet they have male dress. This looks like breasts . . .

19. *Adeh.* Percepts usually seen as human are dehumanized (e.g., inability to see popular figures on card III); need to see animals instead, or parts of animals; animals doing human activity in areas usually seen as human; statues.

A duck (on card III); some kind of bird (card III); a duck's head (III); the leg of a cow (III); odd looking animals with long necks (III); stone statue (VII).

20. *Ahyb.* Autistic or mythological combinations of animals, humans, or plants creating some sort of hybrid.

Half cobra, but from the legs down a woman in an evening dress; a brick wall with an eye looking out; a jet propelled duck in flight; red contents expelled where jet propulsion could be combustible gas (Ahyb. Hhat.); like the head of an animal, got lips like a man; a head with darts coming out of its mouth, got real big teeth (Ahyb. Hor.).

III. *Bodily Preoccupation.* This category includes responses with different affective implications that are expressed through anatomical percepts. Bone anatomy, for instance, can suggest a binding up of anxiety by intellectual activities. X-rays are also indicative of this

145623

defense. Flesh anatomy suggests not only anxiety, but the more involved defenses of hypochondriasis. Internal sexual anatomy suggests even more severe disturbance of basic impulses and affective outlets. Disease suggests that the hostile aspects of the affect turned toward the body are producing severe internal conflict. Anal, fecal responses as well as overt sexual responses emphasize pre-genital development with pathological features. Some of these responses are characterized by an element of autism and difficulty in the expression of instinctual impulses in external relationships. Affect is narcissistically turned inward, or bound up in bodily processes.

21. *Bb.* Bone anatomy. Pelvis, backbone, rib cages and skulls make up most of this category.

Pelvis; tail bone; x-ray of the chest; drawing of a pelvic bone.

22. *Bf.* Flesh anatomy. This includes all internal organs excepting the sexual organs. Blood responses related to anatomical responses are also included. Dissection or violence is scored Hsm. Bf.

Lungs; looks like a liver; hair pores, in layers like in a book; like an artery with red and blue blood; part of human body from throat down to hips (Bf. Bb.); the color of flesh.

23. *Bs.* Internal sexual anatomy.

Uterus; the fallopian tubes of a frog; the cross section of a penis; ovaries of a mammal; sexual canal of a tapeworm (Bs. Bdi.).

24. *Bso.* Sexual organs and intercourse responses.

Penis; vagina; looks like the testicles of a sheep; a woman's breasts; a cow's udder; looks like intercourse going on.

25. *Ban.* Anal or fecal responses. Alimentary tracts in which there is fecal material. Rectum, anal orifices.

Anus and vagina (Ban. Bso.); part of an intestinal tract, x-ray, dark spots represent where waste materials are gathered.

26. *Bdi.* Disease. By analogy rotting or putrification, decomposition.

Fungus growth (Bdis.); discoloration on skin; a wasting of flesh.

27. *Bch.* Childbirth or pregnancy. Autistic preoccupation with birth processes.

This looks like the opening babies come out and here is the blood. A woman is pregnant, inside is the child (Bch. Df.).

IV. *Dependency.* The emphasis in these responses is neither upon the pleasant nor unpleasant aspect of a percept but upon the extent to which the percept expresses an underlying dependent attitude. Certain responses scored under hostility, anxiety, or pleasure may also connote dependent attitudes which should be scored secondarily.

Also to be noted in such responses is a possible wish fulfillment activity. Many of these responses are regressive in tone.

28. *Df.* Fetal, embryonic, or early infant responses. These responses suggest strong regressive tendencies or primitive fixations.

Pig embryos; a chick embryo, neural groove is visible (Df.); cross section of a chick embryo (Df. Bf.); figure of a deformed child, head, eyes, curled up (Df. Hha.); newly born babies; newly born puppies; a pregnant woman with a child inside (Bch. Df.); profile of a baby.

29. *Dor.* There are various types of oral responses which are included in this category. Many of these responses reflect concern with activities such as sucking, licking, drooling and the like. Sucking a pipe is 'Dor' whereas pipe in mouth may be 'Por' (see below). Cows' udders can be scored 'Dor', while human breasts require a 'Dor. Bso.' scoring. Clinging responses can also be scored under this category when the mouth is utilized.

Lips, looks like lips here; roots of a tree. It has a firm foundation, goes away

down to receive nourishment. It's drawing water by tube. It also has roots wrapped around a large stone (Dor. Abal.); a bee sucking nectar out of a flower, through a long proboscis; two men drinking or smoking a water pipe, may have their mouths close to it; face of old man with vapor coming from his mouth; children trying to blow on something; drooling monkeys.

30. *Dcl.* Clinging, hanging or leaning responses suggesting a passive, dependent attitude. Sometimes anxiety is indicated in such a response and can be scored primarily or secondarily, depending on its strength.

A man holding onto a tree; an opossum hanging from a tree; bears hanging onto something.

31. *Dch.* Childishly toned responses not pleasureable in content (pleasurably toned responses scored Pch. Dch., see below). Doggies, children when indicative of a childlike identification. Pixies and gnomes may be essentially non-frightening. However, witches, ogres, etc., are scored first for AA or Aa with a blend of Dch.

Ogre seen from the bottom (AA. Dch.); a hobglobin (Dch.). Pixies looking at each other; a gremlin peering out from behind a rock (Dch.); a little fairy creature, an angel's wings (Dch. Drel.).

32. *Dlo.* Responses suggesting a longing quality. Figures reaching out, beseeching figures, in some cases figures seen at a distance, distant goals. Usually a feeling of wish fulfilling fantasy or inadequacy is apparent.

The enchanted hills, a mist settling in; looks like two figures reaching for something in the distance; the future, like through a mist (Dlo. Aa.).

33. *Dsec.* Responses suggesting wish fulfillment activities, castles, houses (very often seen in vista). Responses suggesting a desire for dependent security. Caves may be included under this category.

This looks like a fireplace; looks like a small house way in the distance. This migh: be a castle up on a hill; a pair of bedroom slippers. A cave.

34. *Drel.* Religious responses. Religious figures, praying figures.

Looks like a figure kneeling and praying; like a religious symbol; a statue of the child of Prague (Christ child); the spires of a church far off.

35. *Daut.* Authority responses. Crowns, thrones, scepters, symbols of authority which may inferentially indicate a continuance of a dependent submissive attitude toward authority.

This looks like a crown like a king would wear; the face of an old king; a bearded patriarch; the high dias of a chief magistrate; the queen in Alice in Wonderland (Daut. Hha.). Moses (Daut. Drel.).

V. *Pleasurable or positive feelings.* This category includes responses on different levels of maturity or spheres of activity as well as of varying distances from the subject. They include pleasant feelings around oral, tactual, and sexual interests; both childish and adult activities; pleasure in the world of nature as well as in personal adornment or less personal ornamentation. Care should be taken to assess the pleasant association to the response in the inquiry. In records already given, one must rely on the usual tone associated with specific content.

36. *Por.* Oral pleasure responses. Food, candy, man with pipe (when pleasurable in tone). Score 'Por' only when pleasure is explicit; otherwise score either 'Dor, Mor' depending on content.

Beer in ice; drunks having a gay time, hanging onto a lamppost with one arm. They both look like women. I don't know why (Por. Dcl. Asex.); dogs trying to get at some jam (Por. Mst.); ice cream; strawberry.

37. *Ps.* Pleasure in sensual sensations; tactual responses. Pleasure

in contact, such as kissing responses.

A fur pelt; two men warming their hands over a fire; a fluffy dog; a pelt stretched out to dry; sharkskin cloth; velvety material; the texture of wood; puppies kissing.

38. *Pch.* Pleasure in childish games or content. The response scored (Pch.) differs from a blend response of (Pch. Dch.) in that the emphasis in Pch., alone, is on positive affect toward childish things by an adult, such as a parent. Pch. Dch. is scored when there seems to be a direct identification with the childish content as pleasurable.

Like a game where you clap hands. Two kids, I guess (Pch.); women playing patty cake; old woman playing patty cake (Hdpr. Pch.); two characters out of my child's fairy book; clowns playing patty cake like at the circus.

Pch. Dch.

Two little baby rabbits; teddy bears; fluffy lambs doing a dance; bears playing patty cake; boy playing on the edge of the grass, rocking back and forth; jacket and pants for a little baby. (Inquiry suggested lack of adult distance from the percept.)

39. *Prec.* Recreational activities, cultural objects or activities, and musical instruments.

Natives pounding on drums for a dance; a violin; dancing fairies with a lot of devils around (Aa. Dch. Prec.); girls doing a can-can; chorus girl with an elaborate costume. Two women, Russian dancers with boots on; a couple of figures dancing; a couple of jitterbugs; a three legged race (Prec. Mst.); a sail boat; a girl relaxing on a beach.

40. *Pnat.* Pleasure in the beauties of nature and living things, in pretty landscapes, pretty butterflies and the like. Ideas of grace.

A beautiful sea shell; a beautiful Hawaiian butterfly pressed in a book (Pnat. Hha.). A Japanese tree that is artificially stunted. The pot looks broken (Pnat. Hha.); a sunrise reflected in clouds (Pnat. Aa.). Leaves turning autumn colors. Woods and flowers; a tulip; an orchid; a flower; a scenic waterfall.

41. *Porn.* Pleasure in ornaments, designs, vases, bowls, and the like. ("A design, that's all"—does not indicate a positive feeling.)

A necklace; a fancy ornamental bowl; a very fancy wallpaper design; a Christmas tree ornament; like a totem pole skillfully carved by natives; winged victory; a sculptured head.

VI. *Miscellaneous.* This category includes a variety of subcategories that are not readily included under any of the above headings.

42. *Mst.* Striving responses. These are responses that emphasize goal directed behavior in animal or human percepts.

Two animals climbing a hill. A sack race (Prec. Mst.). Two parrots going to climb a pole.

43. *Mor.* Various responses emphasizing oral content, but not categorizable specifically as oral dependent or oral aggressive in nature.

An animal trying to get some food with his paw. Relatives of Mickey Mouse lifting their pot of stew (Mor. Hdpr.).

44. *Mnar.* Narcissistic responses usually of a bodily nature: Mirrors, overconcern with clothes, etc.

A girl looking at herself in the mirror, primping herself; a well developed male physique; a peacock with his tail spread open (Porn Mnar.). An animal seeing his reflection in a pool of water. He's quite absorbed in what he sees.

45. *Mip.* Intellectual Pretentiousness—Intellectual Narcissism—Display of intellectual abilities or cultural background through giving some uncommon response such as a rare animal, a cultural object, or a rare word. The response is given so as to impress the examiner—the response may show either a good grasp of the subject or a simple hollow pretentiousness. Responses may be described in complex fashion using overimpressive words, such as, meretricious, commiserating. Sometimes a simple response is dressed up to hide its stereotyped nature.

The Taj Mahal—a view at a distance (said in a pretentious voice) (Porn. Mip.); a bust of Shakespeare (Pres. Mip.); an armadillo—its a form of ant eater, you know. A preacher commiserating with someone for their sins (Mip. Hdpr.). A Lincolnesque face.

46. *Msex.* Responses of indirect sexual interest such as undergarments, panties, brassieres, etc., are more likely to be evidence of a disguise for underlying sexual anxiety than positive interest. Sometimes in the inquiry a positive tone is elicited so that a secondary scoring of positive sensuality (Ps) may be indicated. Brassieres may be disguised oral responses.

A corset cover like my mother used to wear; panties (Msex. Ps., indicated by positive tone in the inquiry); looks like a brassiere—Inquiry—you can almost see the nipples (Msex. Dor.).

47. *Mi.* Indeterminate responses. Responses that seem to have some symbolic affective significance, but which cannot be determined from the nature of the response. Careful inquiry should reduce these to a minimum.

Dog picked up by the fur of his neck; Siamese twins; man with his arms outstretched (no inquiry); two little figures pushing something else; two girls, their heads bowed (no inquiry); men in a hurry: an oriental tent with lots of things around.

VII. *Neutral responses.* This category includes the great bulk of responses in an ordinary record (approximately 50%). If a special significance seems to be attached to any response, an effort should be made not to score it neutral. Animal and human responses will form the majority of neutral responses. Many bugs can be scored neutral when it is apparent that no affective load is attached to them. Bats on cards I and V should normally be scored (*N*) unless there is specific verbalized anxiety content to the contrary. Spiders, crabs, caterpillars, worms, or snakes on card X appear too often to attribute much affective weight to them unless there is elaboration of an affective nature. Snakes and spiders on other cards however, are usually suspect and should be scored (Aa.).

THE INDICES OF AFFECTIVE INFERENCE

The third objective in quantifying affect is the development of numerical indices which serve as reliable, valid, and significant differentiators between groups. This last objective was approached by comparing the summary indices of groups of 60 normals, 30 neurotics, and 30 schizophrenics, each group evenly divided between men and women whose records had been scored with the notational system discussed above.

The simplest index to use as a summary score is a percentile index of the number of responses falling in a particular major category divided by the total number of responses in the record. This index gives in one score the relative amount of a certain affect found in a record which can be compared with that found in other records regardless of difference in response total.

Such an index was made for each of the major affective categories excepting the "miscellaneous." In addition to these an index of total unpleasant affect was added.

This index was composed of the combination of the Hostility, Anxiety, and Bodily Preoccupation categories into one score.[3]

[3] The author also is working with an index of Disturbed Affect. It will be composed of a total of all affective responses that empirically separate the psychotic groups from normals and neurotics. An arbitrary pilot study has already been run including all bodily oriented responses (exclusive of the simple bone or organ anatomy), namely,

This summary system gives seven indices: 1. Hostility; 2. Anxiety; 3. Bodily Preoccupation; 4. Total Unpleasant Affect; 5. Dependency; 6. Positive Feelings; 7. Neutral.

Statistical Results Using the Indices of Affective Inference

I. *Reliability.*

To check the reliability of the summary indices the author gave a series of 20 records to four judges for independent scoring so as to check their results against his own. All four judges had considerable experience with Rorschach work and were therefore familiar with Rorschach content, although none of them had previously attempted to score its affective implications. The author gave each judge the same set of 20 records and asked him to score each response for affect according to his judgment of its affective symbolism. Each was provided with a criterion statement (as discussed above) and they were asked to use the listed notations and refer to the examples for guidance.

Table I demonstrates the relatively high reliability of most of the summary indices. While disagreements as to what subcategory a response belonged to were fairly common they did not affect the summary index unless there was a disagreement as to major category. Disagreements as to major categories appeared, but in some cases the final score of an index would show that certain disagreements tended to cancel each other out. The Dependency and Hostility categories are either not as highly reliable as the others or are open to some confusion in their initial use.

II. *Significance.*

Three methods were used to ascertain how adequately the summary indices function in differentiating groups.

1. *Significance tests on each of the affective indices.*
   a. Critical ratio—Differences between the mean percentages of 60 normals, 30 neurotics, and 30 schizophrenics were tested for each index.
   b. Chi square—In order to more directly bring out the differentiating value of the various indices a tabulation was made of the number in each group who scored 1 σ and 2 σ above the mean of the normal group. Theoretically this should include 16% and 2.3% of the normal group respectively. If any index discriminates well it should include far more individuals with high scores in the neurotic and/or schizophrenic groups so that one could consider the appearance of certain critical scores as indicative of possible maladjustment. The

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Bso, Bsa, Ban, Bdi, Bch; the "hybrid" dehumanized and sexual confusion anxiety responses Ahyb, Adeh, Asex.; plus the oral and fetal dependency responses Dor, Df. The results proved to be highly significant in separating groups of neurotics, schizophrenics and normals.

	Normal (N=60)	Neurotic (N=30)	Schizophrenic (N=30)
No such response	43	15	10
One such response	13	9	4
Two or more such responses	4	6	16

Comparing Number of Records with 2 checks in each group as opposed to those with 1 or less checks by Chi square:

Nor. vs. Neu.	3.6 (not sign.)
Nor. vs. Sch.	25.2 ($P>.001$)
Neu. vs. Sch.	7.2 ($P>.01$)

TABLE I—Product Moment Correlation on Each Affective Index of Each of Four Judges With Examiner D and 20 Rorschach Records.

Judge	Host.	Anx.	Bod.	Unpl.	Dep.	Pos.	Neut.	Mean r of Judge
C	.83	.81	1.00	.85	.33	.94	.82	.78
R	.81	.92	.98	.88	.84	.95	.86	.89
S	.85	.92	.99	.91	.87	.84	.91	.90
T	.60	.89	1.00	.88	.71	.93	.82	.83
Mean r of categories	.77	.88	.99	.88	.68	.91	.85	

critical value of a score 2 σ from the mean would be the most valuable since the theoretical possibility of such an individual being in the "normal" range is only a little over two chances in a hundred.

2. *A comparison of the differentiating value of the affective indices by means of critical checks.* A record was given a critical check for each score exceeding 2 σ of the normal mean in any affective index. The number of records in the normal, neurotic, and schizophrenic groups receiving no check was compared with the number receiving 1 check and those receiving 2 or more checks by means of chi square.

3. *Correlation of Fisher's Maladjustment score and total unpleasant affect.* A correlation was run between the summary index of total unpleasant affect and configurational Rorschach score of overall maladjustment developed by Seymour Fisher (1950).[4]

[4] A report by Thetford and DeVos using Fisher's Rigidity and Maladjustment scores on Beck's normal, neurotic and schizophrenic records is now in final preparation. On the Maladjustment score Fisher found means of 36.9, 59.7 and 85.5 respectively for his groups (entirely women) whereas we found means of 33.1, 59.4 and 85.2 for combined men and women. Women alone scored 30.0, 52.97, and 93.88 respectively.

A critical cut off 2 σ above the mean for the normals includes: normal—4 (7%); neurotic—15 (50%); schizophrenic—24 (80%).

III. *Results.*

1. *Significance tested by Chi square and Critical ratio.*

Table II gives the results obtained by computing critical ratios of the difference between groups on each of the affective indices.

Table III gives the results obtained by computing Chi square tests on the number of individuals in each group at 1 and 2 standard deviations of the normal mean.

Certain of the indices show significant differentiation between groups while others do not. Table II and III show that schizophrenics are best differentiated from normals and neurotics by:

(1) A lack of positive content. A score of about 20% on the Positive Affective Index excluded all schizophrenics in the present sample. (Only 1 scored up to 17%.) This result strongly suggests that *a high positive score would contraindicate schizophrenia.* The author believes that a high positive content score suggests the presence of considerable amount of object cathexis; hence, a possible desire to maintain affective relationships with the outside world. A low score, on the contrary, suggests a possible lack of object cathexis or lack of positive interests or outlets. Low scores beyond 2 σ (0%) are definitely less common in normal groups and are found more often in schizophrenics than in neurotics.

(2) A lower amount of neutral content. *Schizophrenics are not*

TABLE II—Comparison of the Means, Standard Deviation, and Critical Ratios of Affective Indices Among Normal, Neurotic, and Schizophrenic Groups

Major Categories		Means and S.D. Normal Means	Normal S.D.	Neurotic Means	Neurotic S.D.	Schiz. Means	Schiz. S.D.	Critical Ratio P. Level * = .05 † = .01 ‡ = .001
Hostility	♂	9.2	6.5	15.1	12.1	10.9	8.3	Nor. vs. Neu = 1.04
	♀	9.5	7.5	8.1	5.6	5.6	6.9	Nor. vs. Sch = .62
	T	9.4	7.1	11.6	8.3	8.3	7.7	Neu. vs. Sch = 1.35
Anxiety	♂	14.9	8.2	22.7	12.3	24.3	14.5	Nor. vs. Neu = 3.68‡
	♀	12.7	7.0	22.5	11.2	22.6	13.6	Nor. vs. Sch = 3.55‡
	T	13.8	7.6	22.6	11.8	23.7	14.1	Neu. vs. Sch = .32
Bodily Preoccup.	♂	5.4	6.7	10.3	9.7	15.9	14.5	Nor. vs. Neu = 2.16*
	♀	2.8	3.1	8.3	15.9	22.7	31.8	Nor. vs. Sch = 3.68‡
	T	4.1	4.9	9.3	12.8	19.3	23.1	Neu. vs. Sch = 2.08*
Total Unpleasant Affect	♂	31.17	12.9	47.8	16.3	51.5	17.2	Nor. vs. Neu = 4.30‡
	♀	24.83	11.1	37.5	10.2	51.8	22.8	Nor. vs. Sch = 6.12‡
	T	27.5	12.0	42.7	13.2	51.7	20.0	Neu. vs. Sch = 2.07*
Dependency	♂	4.6	4.8	7.6	6.6	7.5	5.8	Nor. vs. Neu = 1.67
	♀	4.6	4.3	6.5	8.0	4.6	7.5	Nor. vs. Sch = 1.07
	T	4.6	4.6	7.0	7.4	6.0	6.8	Neu. vs. Sch = .53
Positive Affect	♂	16.1	11.1	11.3	9.0	7.3	6.0	Nor. vs. Neu = 2.30*
	♀	18.2	10.7	12.5	10.6	6.5	5.6	Nor. vs. Sch = 5.80‡
	T	17.1	10.9	11.9	9.8	6.9	5.8	Neu. vs. Sch = 2.39*
Neutral	♂	48.5	14.7	37.6	21.0	33.8	19.3	Nor. vs. Neu = .96
	♀	50.1	16.4	52.9	16.0	35.4	18.8	Nor. vs. Sch = 3.64‡
	T	49.3	15.6	45.3	19.2	34.6	19.1	Neu. vs. Sch = 2.10*

likely to have a high neutral score, although the evidence is not clear. They tend, moreover, to have a low neutral score to a statistically significant degree. Over 50% of the schizophrenics have a low neutral score, while this is true of only 30% of the neurotics and 20% of the normals at 1 σ below the normal mean. The trend continues at 2 σ but there are too few cases to test significance.

The author believes that these results support the contention that a low score in neutral content may possibly suggest excessive lability or inability to handle affective feelings in a controlled manner. Instead both conscious and unconscious affective pressures influence the perceptual apparatus to an undue extent. On the other hand, an excessively high score in neutral content may suggest a successful constriction used to block off the expression of affective feelings, even to the point of preventing the appearance of any sort of obvious unconscious symbolic expression. The exact relation of this sort of constriction to symbolic production is not too clear, but schizophrenics seem prone to symbolize more of their responses than either normals or neurotics. The better adjusted individual seems sufficiently free to express a certain amount of affective content of both a positive and negative variety. The nature of the defensive structure of individuals in which little or no positive or negative content appears needs further exploration.

(3) High bodily and sexual content. Anatomical and sexual material constituting more than 14% of the responses is evidenced in 50% of the schizophrenics in con-

TABLE III—Number of Cases in Each Affective Index by Standard Deviations From the Normal Group Mean in 60 Normal, 30 Neurotic, and 30 Schizophrenic Records

Index	Normal		Neurotic		Schizophr.		Chi Square n.t. (not testable) Nor. vs. Neu.	Chi Square Nor. vs. Sch.	P. level • = .05 † = .01 ‡ = .001 Neu. vs. Sch.
Normals	N	%	N	%	N	%			
A High *Hostile* Content									
Mean σ $1\sigma = 17$	9	15	6	20	7	23	....	....	....
9.4 ± 7.1 $2\sigma = 24$	2	3	4	13	1	3	....	....	....
B High *Anxious* Content									
Mean σ $1\sigma = 22$	13	23	43	13	15	50	4.67•	7.22•	....
13.8 ± 8.0 $2\sigma = 30$	0		8	27	6	20	n.t.	n.t.	....
C High *Bodily* Content									
Mean σ $1\sigma = 10$	6	10	6	20	17	57	n.t.	22.65‡	8.52†
4.1 ± 4.9 $2\sigma = 14$	3	5	5	17	15	50	n.t.	25.29‡	7.50†
D High *Total Unpleasant* Content									
Mean σ $1\sigma = 40$	8	13	19	63	22	73	23.51‡	25.60‡	....
27.9 ± 12.0 $2\sigma = 50$	3	5	9	30	16	53	n.t.	21.70‡	....
E High *Dependent* Content									
Mean σ $1\sigma = 10$	8	13	8	27	6	20	....	....	....
4.6 ± 4.6 $2\sigma = 14$	1	1.6	3	10	4	13	n.t.	n.t.	n.t.
F_1 Low *Positive* Content									
Mean σ $1\sigma = 6$	11	18	12	40	16	53	4.86•	11.66‡	....
17.1 ± 10.9 $2\sigma = 0$	2	3	4	10	9	30	n.t.	14.06‡	....
F_2 High *Positive* Content									
Mean 17	28	47	8	27	1	3	....	16.22‡	n.t.
$1\sigma = 28$	9	15	3	10	0		n.t.	n.t.	n.t.
$2\sigma = 39$	4	7	0		0		n.t.	n.t.	n.t.
G_1 Low *Neutral* Content									
Mean σ $1\sigma = 34$	12	20	9	30	16	53	....	10.47‡	3.36 (P = .07)
49.3 ± 15.6 $2\sigma = 18$	0		3	10	5	17	n.t.	n.t.	n.t.
G_2 High *Neutral* Content									
$1\sigma = 65$	11	18	5	17	2	7	....	....	n.t.
$2\sigma = 80$	2	3	3	10	0		n.t.	n.t.	n.t.

trast to 17% of the neurotic and 5% of the normal group. An excessive amount of such material suggests a withdrawal of affect from the external world into some form of pathological narcissism. (Perseveration on anatomical material may be interpreted differently in some cases, especially when the material is of the vague pelvis and backbone type of anatomical response.)

Tables II and III show that the normals can be differentiated from maladjusted groups by:

(1) High positive content. Of the normal records 47% were above the normal mean as compared with 23% of the neurotics and 3% of the schizophrenics.

(2) Low anxious content. Anxious responses are significantly less prevalent in normal groups. At 2 σ above the normal group mean one finds none of the normal group, whereas 27% of the neurotics and 20% of the schizophrenics have scores in excess of this point. High anxious content suggests the presence of debilitating anxiety either

directly manifest or bound up in defense mechanisms that absorb a great deal of the individual's energies. There is little difference between neurotics and schizophrenics in total percentage. Further exploration may indicate that differences appear in the specific expressions of anxiety symbolism.

(3) Low total unpleasant scores. Normals have a lower amount of total unpleasant content. Records with a score of 50% unpleasant content include only 5% of the normals, but includes 30% of the neurotics and 53% of the schizophrenics. A score in which 50% of the responses have an unpleasant connotation suggests that there is a sufficient degree of disturbance in the emotional life of a person to consider him as critically maladjusted with considerable affective energy tied up in internal conflicts. There is a trend for normal and neurotic men to score higher on unpleasant content than normal and neurotic women.

The normal group did not produce as many individuals with dependent content as the neurotic or schizophrenic groups, but the differences are not significant at the 5% level. It was hoped that this category would point up records with an infantile, passive-dependent orientation in human relationships. The kind of responses included suggest the presence of unrealistic expectancies and/or regressive features.

The other category that showed no significant differences whatever among groups was the hostile content category. Responses in this category were presumed to suggest inner conflicts over hostile impulses. Only in this category was there a tendency for neurotics to score higher than either normals or schizophrenics. In all other cases there tended to be a progression of disturbed content from normal to neurotic to schizophrenics when one looked at the items separately. The neurotic males had the highest mean in this category.

2. *Comparison of F+% as a significant differentiator of groups with critical scores in affective indices.*

A critical separation of groups took place when a record was checked for each score exceeding 2 σ of the normal mean for a particular category (excluding high positive affect). (Cf. Table IV for critical points for each index.)

TABLE IV—Critical Points for the Indices of Affective Inference

Hos/R	hostile affective symbolism	critical point (2 σ above the normal mean)	24%
Anx/R	anxious affect		28%
Bod/R	bodily preoccupied responses		14%
Unp/R	total unpleasant affect		50%
Dep/R	dependent symbolism		14%
Pos./R	positive symbolism	critical points 2 σ above normal mean	17%
		below normal mean	0%
Neut/R	neutral responses	critical points 2 σ above normal mean	80%
		below normal mean	18%

It was found that the affective scorings are as valid in differentiating between normal and maladjusted individuals as F+%. This fact was brought out by comparing the proportionate number of normals, neurotics and schizophrenics showing 2 critically higher affective inferences with the proportionate number showing an F+% less than 60 or more than 96. Only 5% of the normals fall within the critical F+% whereas 23% of the neurotics and 47% of the schizophrenics. Two or more critical affective indices include only 5% of the normals compared with 40% of the neurotics and 60% of the schizophrenics.

This evidence argues strongly for the use of these indices as differentiators. However, it is apparent that they are not infallible. The Rorschach test, itself, is not infallible. Moreover, just like any other individual Rorschach variable one has to judge these indices in the context of the record. On the other hand, these cases were categorized on the basis of psychiatric evaluations which are also open to a certain percentage of error. Then too, it is expected that a certain percentage of seriously maladjusted individuals should find their way into any sampling of a supposedly normal population. All things considered these indices seem to be as useful as differentiators as any Rorschach variables tested quantitatively.

3. *Correlation of total Unpleasant Affect with Fisher's configurational maladjustment score.*

A third method of validation, computing a correlation between the index of total Unpleasant Affect and a configurational maladjustment score developed by Fisher (1950), demonstrated a high relationship between Unpleasant Affect and Maladjustment. This score held up as a good differentiator not only in Fisher's own sample of normal, neurotic and schizophrenic but also when tested on Beck's samples.

Fisher's score was composed of weighted points given for various imbalances in the determinants, or for pathological signs usually noted in a clinical evaluation of a record. This rating system permits one to use a single number in rating records. Due to the fact that a few items scored for affective content also obtain points in Fisher's system, two correlations were run, one on the total maladjustment score, and secondly, on the maladjustment score minus interdependent items. The product moment correlation of maladjustment

TABLE V—a. Distribution of Normals, Neurotics and Schizophrenics According to the Number of Critical Affective Indices Per Record

N. of Affect Indices Above 2 σ of Normal Mean	Nor. (N = 60)	Neu. (N = 30)	Sch. (N = 30)
no score	50 (83%)	11 (37%)	5 (17%)
1	7 (12%)	7 (23%)	7 (23%)
2+	3 (5%)	12 (40%)	18 (60%)

b. Distribution of Normals, Neurotics and Schizophrenics According to F+%

F+%	Nor. (N = 60)	Neu. (N = 30)	Sch. (N = 30)
80-95%	33 (55%)	7 (23%)	1 (3%)
60-79%	24 (40%)	16 (54%)	15 (50%)
less than 60% / more than 96%	3 (5%)	7 (23%)	14 (47%)

with unpleasant affect was .69 (minus interdependent items, r = .63).

Summary and Conclusions

1. A classification system for inferences concerning affective symbolism in Rorschach content was devised so as to quantify and make explicit these inferences. The purpose of this system was to make controlled comparison between groups possible in this area.

2. The various subcategories were based on Rorschach and psychoanalytic literature. No attempt was made to substantiate the assumptions on which they were based, nor was there a test of reliability of the individual subcategories.

3. Indices summarizing the major categories into a percentile of the response total proved to be highly reliable in most cases when scored by experienced Rorschach workers.

4. Several of these indices significantly differentiate between clinical groups. Scoring above a critical point in more than one of these indices strongly suggests severe maladjustment.

5. The index of total Unpleasant Affect correlated .69 with Fisher's configurational maladjustment score.

6. A consistent quantitative system of summarizing inferences about affective symbolism in Rorschach responses is not only feasible but should be quite valuable in assessing any individual record.

7. The indices of Affective Inference developed in this study permit a controlled comparison of groups of records in the area of affect, which has been lacking in group studies done so far with the Rorschach Test.

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Maternal Behavior and Child Personality: A Rorschach Study[1]

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INTRODUCTION

The influence exerted by early parental handling on the child's developing personality has been regarded as substantial by psychological investigators. Specialists in a variety of disciplines have carried on research yielding insights into the parent-child relationship. Symond's recent book (1949) contributes materially to an understanding of this relationship.

A brief survey of research efforts having either a direct or indirect bearing on the parental role as a factor in personality development would include mention of the studies in field theory contributed by Kurt Lewin (1936, 1944). Psychoanalytic theory focused considerable attention on the individual, stressing the importance of familial influences, particularly maternal, on the child's personality and stimulated the investigations of David Levy (1943), Anna Freud (1943) and Susan Isaacs (1933). The multi-discipline approach in experimental investigations of human development has been given due recognition by such investigators as Mowrer and Kluckhohn (1944). A vital approach in the study of human development is that designated as *longitudinal*, exemplified by the Berkeley group under Macfarlane (1938) and by that in operation at the Fels Research Institute for the Study of Human Development.[2] (Sontag, 1946).

THE PROBLEM

This study was undertaken as a preliminary investigation in determining what the Rorschach test can contribute to our understanding of the impact of maternal behavior on a child's developing personality. It is based on the individual Rorschach records of fifty-seven children who form part of the population of the children under study at the Fels Research Institute.

The following questions are considered in this study. To what extent do the Rorschach records of the children reflect different patterns of maternal behavior? Which Rorschach scores or combinations of scores differentiate between the groups?

Maternal behavior, as defined here, conveys the concept that in the mother-child contact, the mother is motivated by unconscious as well as conscious attitudes and feelings in her relationship with the

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Acknowledgement is also made for the valuable criticisms of Professor Arthur G. Bills, Virginia T. Graham and Herbert B. Weaver.

[2] Conducted at Antioch College, Yellow Springs, Ohio (Sontag, 1946.)

child. It is assumed that these attitudes influence the mother's behavior towards the child and that they impinge on him as psychological pressures which have a distinct bearing on the child's developing personality. It is further assumed that certain characteristics of the interaction between mother and child can be evaluated in quantitative terms by the rating method.

Patterns of maternal behavior have reference to characteristic profiles on those psychological variables by which maternal attitudes are rated on the Fels Parent Behavior Rating Scales.

The Experimental Population

For the problem under investigation, it appeared desirable to select children aged six and seven years. Two considerations dictated this choice. First, this age group might reflect more clearly the impact of maternal handling before too much socializing had modified the child's personality. Secondly, the first of a series of Rorschachs is administered in the Fels program at this age.

Table I—Distribution of the Mother-Child Groups

	I	II	III	IV	Total
Children	15	13	16	13	57
Mothers*	12	12	15	11	50
Mothers**	11	7	13	7	38

* Includes six "overlap" mothers.
** Mothers with a single rating.

The sample comprises fifty-seven children, aged six or seven years, who form part of the population of children under study at the Fels Research Institute. Included in the sample are eleven sets of siblings. The mean age of the children is 6 years 11 months. The children were divided into four groups, designated I, II, III, IV on the basis of differing patterns of maternal behavior as determined by "cluster analysis" of the battery of parent rating scales.

Thirty-eight individual mothers were rated for the total child population. Six of them are "overlaps" in the sense that they provide distinctly different patterns of ratings with respect to different children. The total number of maternal ratings, therefore, is forty-four. The mean age of the mothers is 34.6 years. The data are summarized in Table I.

The Rorschach tests were individually administered by members of the Fels staff. For the most part, the dates of the ratings on the mother and of the administration of the child's Rorschach were within six months of each other. The writer, who has had no direct contact with the children, scored the children's Rorschachs and wrote individual interpretations for each.

The Measurement of Parental Behavior

The task of evaluating parental behavior in objective terms was undertaken by Champney (1941) in cooperation with the staff of the Fels Research Institute. He devised the Fels Parent Behavior Rating Scales consisting of thirty variables, each of which is descriptive of some aspect of observable parent behavior toward an individual child in the home setting. A detailed description of the scales can be found in Baldwin, Kalhorn and Breese (1949). They demonstrated

that the scales yield reliable measures of parental behavior. The validity of the scales is empirically established.

In the aforementioned study, it was shown that the ratings on certain scales were closely related as determined by "cluster analysis." In the analysis of the thirty variables comprising the scales, Baldwin (1945) selected all variables whose intercorrelation was .60 or higher. In the sets or "clusters" which emerged, those variables which did not seem to be related were studied. Ultimately, three major dimensions of parental behavior emerged, namely: the emotional tone pervading the parent-child relationship, the intellectual objectivity of parental attitudes, and the measures of control utilized by the parent.

The dimension of parental behavior which embraces the emotional tone pervading the parent-child contact is designated as *warmth* and defined in these terms (Baldwin, 1949):

"A warm home is one in which the parent genuinely likes and enjoys the child, finds contact with him rewarding and pleasant, is appreciative and approving of the child's personality—in short, is "acceptant" in the conventional sense of the term. The position of a home on the warmth continuum varying from excessive devotion through casual enjoyment and cool detachment to vigorous hostility, sets the emotional climate. Warmth is the central characteristic coloring all other aspects of the parent's behavior."

There are five rating scales which tend to show consistently high, moderate or low ratings on the *warmth* factor. Consequently, these five scales form a "cluster" of variables which will be listed and defined in brief terms. The numbers preceding each scale are those used for notational purposes in the Fels program. The scales are listed in the order of their importance in the "cluster."

7.2 *Acceptance of the Child* (Devotion—Rejection): This first scale defines the degree to which the parent's emotional life includes or excludes the child. The rater has these major questions to guide him: Does the parent act in such a way as to indicate that the child is considered an intimate and inseparable partner? Or does the parent act as though he resents the child's intrusion and rejects the child's bid for a place in his primary area of devotion?

Earlier in the study, the writer mentioned the cues which guide the rater in expressing her judgment as carefully as possible. The value of the cues will be apparent on inspection of the six cues which appear on the scale of *acceptance*.[3] For illustrative purposes, they are listed as they appear on the scale:

Parent's behavior toward the child connotes utter devotion and acceptance into his innermost self, without stint or suggestion of holding back in any phase of his life.

Parent clearly accepts child. Includes child in family councils, trips, affection, even when it is difficult or represents considerable sacrifice.

A "Charter member" of the family, but "kept in his place." Parent accepts child in general, but excludes him from certain phases of parent's life.

Tacit acceptance. Excludes child so frequently that to the child the rejection attitude may seem to predominate even though parent takes acceptance for granted.

Parent's predominant tendency is to avoid, repulse, and exclude the child, but without open rejection.

Child openly resented and rejected by parent. Never admitted to inner circle. Made to feel unwanted, ostracized.

The second of the five scales in the *warmth* area is:

5.2 *Direction of Criticism* (Approval – Disapproval): This scale rates the direction of the parent's critical reactions to the child's be-

[3] The interested reader may consult Baldwin (1949) if he wishes to read the cues on the complete set of scales.

havior. The rater is guided by these questions: When the parent reacts does it tend to take the form of praise, approval, acclaim? Or does blame, disapproval predominate?

The third of the *warmth scales* is:

8.3 *Affectionateness* (Affectionate—Hostile): In this scale the parent's expression of affection to the child is rated. These questions are pertinent for the rater: Does the parent manifest a warm, personal affection to the child? Or a matter-of-fact, unemotional attitude? Or definite antagonism?

The next scale is defined as:

8.4 *Rapport between Parent and Child* (Close Rapport—Isolation): Here an attempt is made to determine the closeness of the psychological relationship between parent and child. It includes such factors as mutual understanding, confidence, the sharing of aspirations, intimate thoughts and feelings. The rater seeks to answer the questions: Do they show a high degree of rapport? Or are they distant and out of touch with each other "spiritually," tending to be inhibited in each other's presence?

The fifth and last scale is:

1.91 *Child-centeredness of the Home* (Child-centered—Child-subordinating): This scale tries to rate the organization of the household according to the degree to which it centers around the child's welfare. The concept of self-sacrifice on the part of the parent is introduced. The appropriate questions for the rater are: Does the child get more than his proportionate share of consideration; or is his welfare subordinated to that of other members of the household?

These scales comprise the first dimension of behavior, and they estimate the nature of the emotional contacts between parent and child. The second dimension of parental behavior has to do with the intellectual objectivity of parental attitudes. Two sub-groupings of the scales convey this concept. The one is termed *democracy* and the other *intellectuality*.

The first of the two *democratic* scales is appropriately termed:

3.15 *Democracy of Policy* (Democratic — Dictatorial): This scale rates the parent's tendency to share with the child the formulation of policies regulating the child's conduct. The rater includes in her decision evidence based on both overt consultation with the child and consideration of the child's expressed wishes. Does the parent give the child a voice in determining what the policy shall be? Or does the parent hand down the established policy from above?

The second *democratic* scale is:

3.14 *Justification of Disciplinary Policy as Presented to the Child:* (Rational—Arbitrary): Here, the *way* in which requirements or penalties are conveyed to the child is of importance. It measures the parent's disposition to explain the reasons for disciplinary measures. The guiding questions are: Does the parent attempt to put all discipline on a logical basis? Or are his policies presented in purely arbitrary fashion to the child?

The *intellectuality* cluster consists of three scales, of which the first is:

3.3 *Accelerational Attempt* (Acceleratory — Retardatory): In this case, the parent's striving to increase the rate at which the child's behavior is maturing is evaluated. Does the parent deliberately train the child in various mental and motor skills which are not yet essential? Is the child left to "grow

naturally"? Is the child shielded from accelerational influences?

A closely allied scale is:

6.1 *Readiness of Explanation* (Satisfies curiosity—Thwarts curiosity): This scale rates the parent's tendency to satisfy the child's intellectual curiosity irrespective of whether the answers are accurate or honest. Does the parent readily respond to the child's "Why?" and "How?" questions? Or is the child thwarted in attempts to get information and explanation from the parent?

In the light of these two scales, the measure yielded by the third scale in the *intellectuality* cluster is important. This is called:

8.1 *Understanding* (Keen – Obtuse): The scale involves the parent's ability to meet the child on his own level, to show insight and empathy in regard to his needs, capacities and limitations. Admittedly, the process includes an emotional component as well as the primary intellectual one. These questions are helpful to the rater. Does the parent's behavior indicate a thorough and intelligent understanding of the child? Does it indicate a failure to appreciate the child's capacities and limitations?

The measures of control used by the parent, which constitute the third dimension of parental behavior, comprise two scales, of which the first is termed:

3.11 *Restrictiveness of Regulations* (Restrictiveness – Freedom): In this case, the rater considers the restrictiveness of the regulations set up by the parent as standards to which the child is expected to conform. The parental expectations can be implied as well as overtly expressed. The guiding questions are: Are the requirements numerous and severe; or few and mild? In meeting these standards would the child be highly limited in his behavior, or would he still have a large measure of freedom?

It can be readily seen how closely the following scale is related to the one just described.

3.22 *Coerciveness of Suggestion* (Mandatory—Optional): This evaluates the quality of the parent's suggestions in dealing with the child's immediate behavior. These are the pertinent questions: Does the parent attempt to control a situation by issuing orders or commands, to be obeyed? Or does the parent make her suggestions optional, or discretionary, with the child?

In summary: the preceding individual scales define the major dimensions of parental behavior as revealed by cluster analysis of related variables. The scales which form clusters have been referred to in terms of: *warmth, democracy* and *intellectuality,* and *restrictiveness.* It has been found in further study of the scales, however, that another cluster of scales applies in a selective manner to some parents. This cluster, which includes three scales, has been called *indulgence.*

The first of the scales in this category is:

4.1 *General Babying* (Over-helps —Refuses to help): On this scale, the effort is made to rate the parent's tendency to help the child through the ordinary difficulties of every-day life. It applies only to tasks the child is attempting on his own. These questions are useful: Does the parent insist on helping in situations where the child is quite capable? Or does the parent withhold aid even in major difficulties?

The second of the related scales is referred to as:

4.2 *General Protectiveness* (Sheltering—Exposing): In this case, the parent's reaction to threats to the child's well-being is noted. Hazards arising from physical, social, mental or other sources are properly considered in the rater's judgment. Does the parent tend to keep the child unnecessarily sheltered? Does she prevent difficulties from reaching the child? Or does the parent tend to expose the child to dangers and difficulties?

The last of the *indulgence* scales is understandably linked with the other two. The title of this scale is:

7.1 *Solicitousness for Child's Welfare* (Anxious – Nonchalant): The parent's tendency to display over-concern for the child's well-being is rated in this instance. It includes any and all factors related to the child's comfort. The following questions help to determine the parental rating. Is the parent readily excited to overt anxiety out of all proportion to the importance of the situation? Or is the parent markedly calm, cool and nonchalant, even in the face of critical danger to the child?

All of these scales provide a frame of reference for an understanding of the patterns of maternal behavior to be discussed. The remaining scales have an important bearing in any evaluation of parental behavior, particularly so, when an individual home is under study from the clinical standpoint.

The Patterns of Maternal Behavior

The selection of four distinct groups was achieved by grouping together those mothers who showed similarities of ratings on specific clusters. The ratings are standard scores with an established mean at 50 so that high scores are those above the mean, low scores those below it. Consequently, the scores on related variables were examined to determine the patternings of high and low scores. A mother would be rated as being high on a cluster if all, or all but one, of the variables in that cluster were high.

In the first group of maternal ratings, characterized as "ideologically democratic" in this study, the highest ratings are those on democracy, indicating that adherence to democratic policy is valued. (See Figure 1.) Low ratings on restrictiveness suggest that the child is given considerable freedom of movement. The ratings on warmth tend to be low, showing that the mother is casual in her emotional attachment to the child. The low ratings on indulgence suggest that the child is encouraged to be self-reliant.

The mother-child relationship then presents these features. The mother adheres to a consciously planned method of handling the child; in this instance, control policies derive from democratic interchange with the child. Such parental behavior demands a degree of intellectuality and emotional distance which markedly reduces the amount of warmth and affection shown toward the child, whatever the parents' true sentiments may be.

The mothers in the second group show an entirely different pattern of ratings (see Figure 2). It is immediately apparent that all the ratings are low except those on restrictiveness. The underlying emotional attitude is one of rejection. The mother who rates low on all the warmth variables usually does not find satisfaction in dealing with her children as individuals. She tends to limit the number of occasions when she is

SAMPLE PROFILE OF A MOTHER IN THE "IDEOLOGICALLY DEMOCRATIC" GROUP

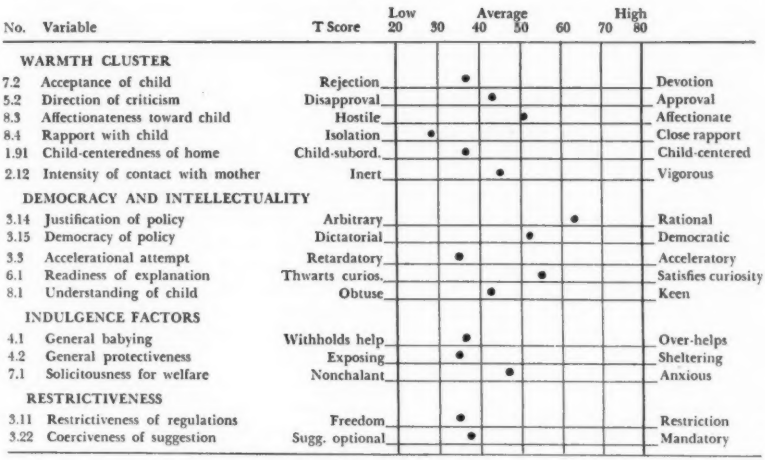

FIGURE 1

in direct contact with the child or to be oblivious of him when he is present. When she is in contact with him, she controls his behavior in a highly authoritative manner. The low ratings on indulgence indicate that the child is obliged to deal with difficulties on his own.

It is convenient to refer to these

SAMPLE PROFILE OF A MOTHER IN THE "RESTRICTIVELY COLD" GROUP

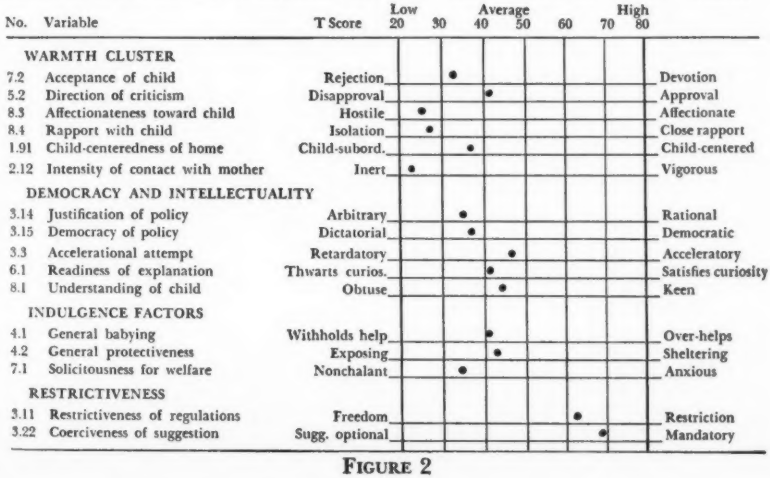

FIGURE 2

mothers as "restrictively cold" in terms of their pattern of ratings. The mother-child relationship is summed up as follows: her behavior is overtly rejecting toward the child, whether consciously or unconsciously motivated. Hostility and resentment are usually accompanying factors. Control measures are highly restrictive and arbitrary, often running counter to the child's realistic needs.

The mothers in the third group reveal a pattern of ratings in sharp contrast with that just described (see Figure 3). The high ratings on warmth characterize the mother as accepting of the child and devoted to his interests. The low ratings on restrictiveness indicate that she is casually permissive and makes little effort to restrict his freedom unless it threatens his welfare. The latter implication follows from the mother's ratings on the indulgence variables. She has a realistic evaluation of the child's needs as a developing individual and she provides adequate intellectual stimulation for him, as is indicated by the ratings on intellectuality.

The democratic ratings are high and help to distinguish this group of mothers who adhere to democratic methods because of a conviction that the child will benefit from such handling. It is convenient to identify this group as "spontaneously democratic." This type of democratic mother is fundamentally accepting of the child. She is motivated to treat him as a unique individual because of her warmth and sense of enjoyment in being with him. Her democratic techniques stem from appreciation of the child rather than from intellectual approval of the methods as is true of the mother in the first group.

The mothers in the fourth group have high ratings on indulgence, warmth and restrictiveness, "mixed" ratings on intellectuality and low ones on democracy (see Figure 4). The relatively low ratings on democracy and high ones on

SAMPLE PROFILE OF A MOTHER IN THE "SPONTANEOUSLY DEMOCRATIC" GROUP

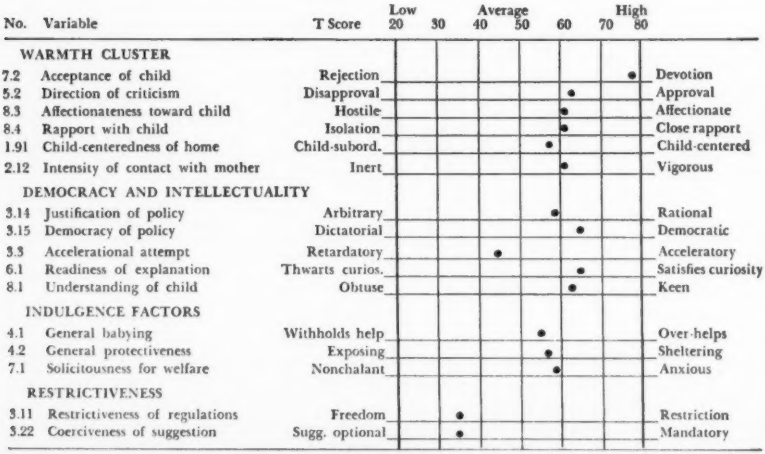

FIGURE 3

SAMPLE PROFILE OF A MOTHER IN THE "RESTRICTIVELY WARM" GROUP

No.	Variable	T Score	Low 20	30	Average 40	50	60	70	High 80	
	WARMTH CLUSTER									
7.2	Acceptance of child	Rejection					•			Devotion
5.2	Direction of criticism	Disapproval					•			Approval
8.3	Affectionateness toward child	Hostile					•			Affectionate
8.4	Rapport with child	Isolation					•			Close rapport
1.91	Child-centeredness of home	Child-subord.							•	Child-centered
2.12	Intensity of contact with mother	Inert					•			Vigorous
	DEMOCRACY AND INTELLECTUALITY									
3.14	Justification of policy	Arbitrary				•				Rational
3.15	Democracy of policy	Dictatorial					•			Democratic
3.3	Accelerational attempt	Retardatory					•			Acceleratory
6.1	Readiness of explanation	Thwarts curios.						•		Satisfies curiosity
8.1	Understanding of child	Obtuse				•				Keen
	INDULGENCE FACTORS									
4.1	General babying	Withholds help					•			Over-helps
4.2	General protectiveness	Exposing						•		Sheltering
7.1	Solicitousness for welfare	Nonchalant						•		Anxious
	RESTRICTIVENESS									
3.11	Restrictiveness of regulations	Freedom						•		Restriction
3.22	Coerciveness of suggestion	Sugg. optional					•			Mandatory

FIGURE 4

restrictiveness are in contrast to the ratings shown by the "spontaneously democratic" mothers. Here, the mother tends to lavish her attention on the child, as indicated by the indulgence ratings, thus hampering his efforts to be as resourceful as he can be. On the other hand, she may well "push him" in some areas of development beyond his capacity, as is suggested by ratings on the intellectuality cluster, since she tends to show a limited understanding of his needs. In the area of restriction, she tends to limit the scope of his operations in accordance with maternal convictions. In the high ratings on warmth, the mother reflects her identification with her child and a sense of self-satisfaction.

The mother in this group will be referred to as "restrictively warm." Her concept of the mother-child relationship derives from traditional values. Her behavior is designed to "guide and mold" the child, therefore resulting in restrictive policies. Warmth accompanies the mother-child contact when the child is dependent and immature, but it tends to decline as the child matures, and by his developing independence, comes into conflict with maternal goals.

Although this study is limited to these four patterns of maternal behavior, it should be pointed out that an undetermined number of patterns can exist, and that there are individual variations in the patterns that have been described.

PROCEDURES IN THE ANALYSIS OF THE DATA

The research demands of the study determined the eclectic Rorschach scoring method used. The following test factors were scored according to Beck's (1944) system: location areas, popular responses, z scores and the form quality. In the determinant area, these scores were used: M, FC, CF and C. The FM and m scores, as advocated by Klopfer and Kelley (1942) were in-

cluded. Finally, the shading scores, Fc, c, Fc′ and c′ are used as defined by Piotrowski (1947).

The futility of making indiscriminate statistical tests on Rorschach scores with little regard for their applicability in terms of the assumptions basic to those procedures has been pointed out by Cronbach (1949). Such techniques as analysis of variance were accordingly deemed inapplicable to the statistical treatment of the data. Cronbach has recommended the research usefulness of the Inspection Technique or Checklist devised by Munroe (1945) which has been utilized in a number of investigations (Anderson & Munroe, 1948, Munroe, 1946, Roe, 1946a, Roe, 1946b). To the writer's knowledge, the Munroe checklist has not been used in the analysis of children's Rorschachs, but the "signs" approach in the analysis of children's records has been reported (Davidson, 1943; Davidson, 1950; Gair, 1944). Although the Inspection Technique was designed primarily for young adults, the variability on individual items appears sufficiently wide to be inclusive of children's norms. It was accordingly decided to evaluate the individual protocols by the Munroe checklist[4] and to test the significance of intergroup differences by the exact method as outlined in Fisher (1946).

The intergroup concentration on checklist items was then studied in order to determine the correspondence existing between variables of personality, represented by the checklist items and variables of parental influence, represented by scores in the respective maternal groups.

Finally, an effort was made to evaluate the relative degree of affective stability found in the four groups of children by a study of the *experience type,* defined as the ratio of movement to weighted color scores. Rorschach (1942) postulated that since color responses represent lability of affect, the more unstable is the affectivity of the individual; the more predominant the kinaesthetic responses, the more stable the affectivity. He called the experience types lacking both movement and color responses coartated, and he indicated that depression or fixity of attention narrowed the experience potential of the individual. His comments apply to the records of adults, modifications are expected in the records of young children.

Rorschach's comment that education and the development of disciplined thinking coartate the experience type of children is of interest in the light of the age groups under study. He states, "Learning to read plays an important role in this coartation due to the fact that it teaches clear form perception." (Rorschach, 1942, p. 118). The significance of intergroup differences in the experience type was also tested by the exact method.

Results

The "adjustment scores"[5] on the Munroe checklist range from 3 to 23 with the group mean being 12.84, standard deviation 4.38. The data for the individual groups are summarized in Table II.

The standard deviations for groups II and III were subjected to further analysis. The F test, as

[4] Twenty-four of the twenty-seven checklist items were used in this study. Two of them (Time and K,k) were not applicable to our data. The item, Color plus movement, was eliminated because of Munroe's comments as to its dubious value (Monroe, 1946.)

[5] The "adjustment score" is the numerical total of all the entries made on an individual checklist blank.

TABLE II—Mean Checklist Scores on the Children's Records

	I	II	III	IV
Means	12.8	13.46	13.5	11.46
Standard Deviation	4.08	5.77	3.14	4.06

described in Lindquist (1940), makes it possible to test the difference between the standard deviations of two small samples. By applying the F test to groups II and III, the obtained value of F is 3.31. An F value of 3.67 would be expected at the 1% level; an F value of 2.48 at the 5% level. It may be concluded, therefore, that groups II and III are not drawn from equally variable populations. The variability of the scores is wider for group II than it is for group III. Although the mean adjustment scores of these two groups are comparable, there is a wider fluctuation among the children of "restrictively cold" mothers than is true of the fluctuation among the children of "spontaneously democratic" mothers.

In the analysis of intergroup differences on checklist items, the raw data presented in Chart I were used as a basis for setting up the respective contingency tables in the following Rorschach categories: location, form, shading, movement and color. Although it was theoretically possible to make statistical tests on twenty-four checklist items, five of them, namely: Dd, O, c′, m and Succession occurred so infrequently as to constitute non-occurrence.[6] For practical purposes, the number of significance tests actually involved nineteen items. The probability levels secured on testing these items are reported in Table III.

[6] In the sample of 57 protocols, Dd and O are tabulated once; c′ and m, three times; Succession, four times. (See Chart I.)

TABLE III—Intergroup Probability Levels on Checklist Items

Checklist Items	Groups	Prob'ity
Location		
W (B,BV,V)	III & I	.018*
Form		
F% (++, +++)	III & IV	.057
F% (++, +++)	III & I	.086
F (BB)	III & I	.065
Shading		
Fc (—)	II & III	.037*
Shading Shock	III & IV	.107
Movement		
M (— —)	II & IV	.047*
FM (—)	III & IV	.095
Color		
CF (—)	II & III	.043*
C more than 1	III & I	.065
Total Color (—, — —)	II & III	.009**
Total Color (—, — —)	II & I	.040*
Total Color (—, — —)	II & IV	.040*

* Significant beyond the 5% level.
** Significant beyond the 1% level.

It will be seen that seven results achieve the 5% level of confidence (including one at the 1% level). Results approaching the 5% level are also included in the table. These differences may represent the operation of chance phenomena (at the 5% level, 5.7 results would be expected), but we do not know whether the particular differences found also represent the operation of chance factors. Assumptions can be made in either direction.

An inspection of these differences is pertinent. Of the seven intergroup differences, six of them refer to group II. If the characteristics of the Rorschach factors involved in these differences are studied, it is seen that five of them relate to scores which have an emotional connotation in Rorschach interpretation (color and shading). The sixth (movement) combines both emotional and intellectual characteristics. This "clustering" of the differences, since it singles out one of the groups and emphasizes

CHART I—Inspection Technique Scores

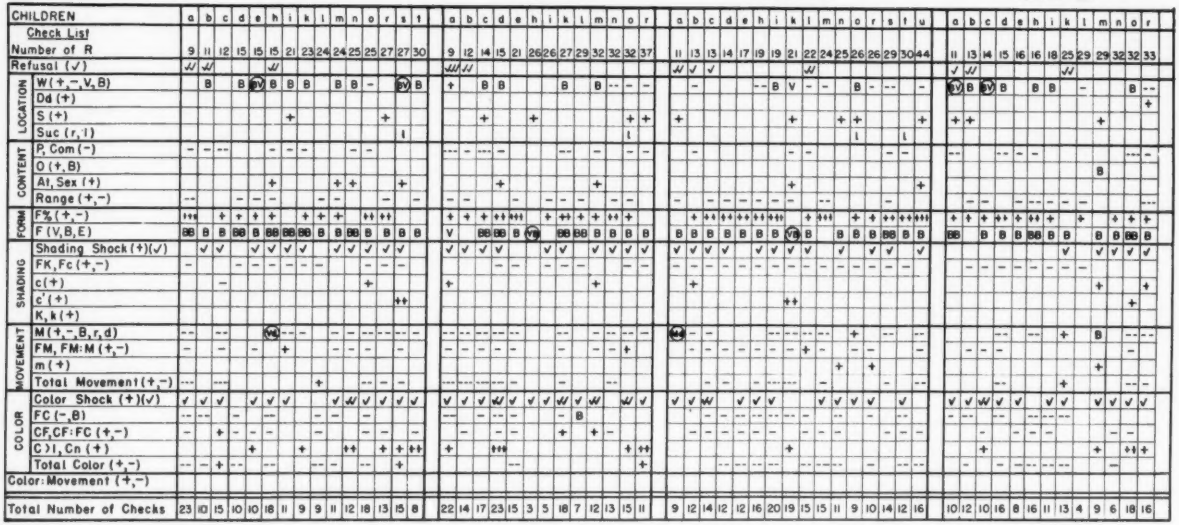

TABLE IV—M Distribution for 6 and 7 Year Old Children

	Ford's Group			Montalto's Group		
	N	Group %*	Mean M	N	Group %*	Mean M
6 Years to 6-11	23	57	1.2	19	58	1.8
7 Years to 7-11	23	91	2.4	38	63	1.7

* Group % refers to percentage of group producing M responses.

a specific type of Rorschach score, is a phenomenon which is unaccounted for and unexplained if a purely conventional interpretation of significant results is adhered to.

The results obtained on the affective stability of the groups should be considered in the light of those already given regarding intergroup checklist differences. The production of M responses in children deserves consideration in the effort to ascertain affective stability as herein attempted. Movement responses appear in the records of pre-school children (Ford 1946, Levy 1943) and are clearly established at ages six to seven. The relevant data for Ford's group of superior children and the group in this study who are above average by comparison with national norms, but who would not be characterized as superior are presented in Table IV.[7]

In studying the ratio of movement to weighted color scores, we defined as *affectively stable* those children in whose records there is a balance of movement and weighted color scores or in which the preponderance of movement to color is not more than two to one in children producing more than four movement responses. The *affectively unstable* children include those in whose records the predominance of color responses in the experience balance is one or more. The coartated records, implying emotionally dull or flat affect, are accordingly eliminated from this aspect of the study. Table V shows the distribution of the experience types in the children's records.

The result obtained by the application of the exact method indicates that a significant difference between groups II and III is present, ($P = .036$) with group III showing the emotionally stable pattern and group II the emotionally unstable one. This result provides additional evidence and is consistent with the prior observation that we should attach positive significance to those differences found in the color dimension, particularly with reference to group II.

TABLE V—Distribution of Children's Experience Type Patterns

	GROUPS			
Experience Type	I	II	III	IV
Coartated	2	1	4	1
Affectively stable	6	4	10	6
Affectively unstable	7	8	2	6
Totals	15	13	16	13

DISCUSSION

The results on the Munroe "adjustment scores" were presented in Table II. It was demonstrated that the mean adjustment level of children who have "spontaneously

[7] In a recent study, Thetford, Molish and Beck (1951) report a mean M of 0.87 for a 6 to 9 year old group of average intelligence. No breakdown in 6 and 7 year olds is given.

democratic" mothers is more truly representative of them as individuals than it is of children who have "restrictively cold" mothers, although their adjustment levels as groups may be similar. In the absence of reports on the use of "adjustment scores" with children, the evaluative significance of the obtained results is not clear. In her experience using the adjustment scores with a young college population, Munroe (1945) states that a "tally of entries above 10 suggests rather serious maladjustment; above 15, possible psychopathology." (p. 80). The trend in the direction of evaluating the adjustment of children by means of a *sign approach* is apparent from Davidson's recent review (1950). She uses a set of seventeen adjustment signs devised by herself in an earlier investigation (1943). The Davidson set of signs and the Munroe checklist seem comparable. Davidson reported the mean adjustment score of 102 bright children, aged nine to twelve years, to be 10.31, standard deviation 2.99. Unfortunately, Gair's study (1944) on a group of bright seven year olds does not furnish complete data. We prefer not to interpret the results of the sample under study as indicating "adjustment," but to present them in order to provide comparative data for future research.

The quantitative results on checklist items are regarded not as establishing intergroup differences in a statistical sense but as providing substantial evidence that there are differences of sufficient magnitude to warrant advancing hypotheses and providing impetus for further study. It should be emphasized that presently available techniques for the appraisal of such subtle differences as exist in the data under question with particular reference to small samples are inadequate and limited.

It is our purpose at this point to provide a descriptive analysis of the groups based on the incidence of occurrence of checklist items. It should be remembered that the checklist items represent deviations from scores within normally accepted limits as determined by quantitative and qualitative factors. The mean percentages of the composite group as well as the individual group percentages on specific items appear graphically in Figure 5. The individual group trends are interpreted and related to the variables of maternal behavior.[8]

If we consider the two *democratic* groups (I and III), it is interesting to note that they have essentially no commonality of trends. (A possible exception is the CF score which is below the MEAN [9] for group III but coincident with the MEAN for group I.) Such similarities as do occur usually involve a third group (Shading shock, Fc, Total Color, C more than 1 and FC). In terms of the maternal patterns, the mutually high ratings on democracy and low ratings on restrictiveness are not uniquely discriminative in themselves. It is implied that the differences in the ratings on warmth, indulgence and intellectuality have a selective influence on the Rorschach trends which emerge.

Now the *restrictive* groups (II and IV) show common trends on CF and Color Shock, both of which are above the MEAN. It is sug-

[8] The writer is indebted to Dr. Lee J. Cronbach for suggesting this additional treatment of the data (personal communication.)

[9] To promote clarity, we shall use the device of referring to the mean for the composite or total group by capitalization—MEAN.

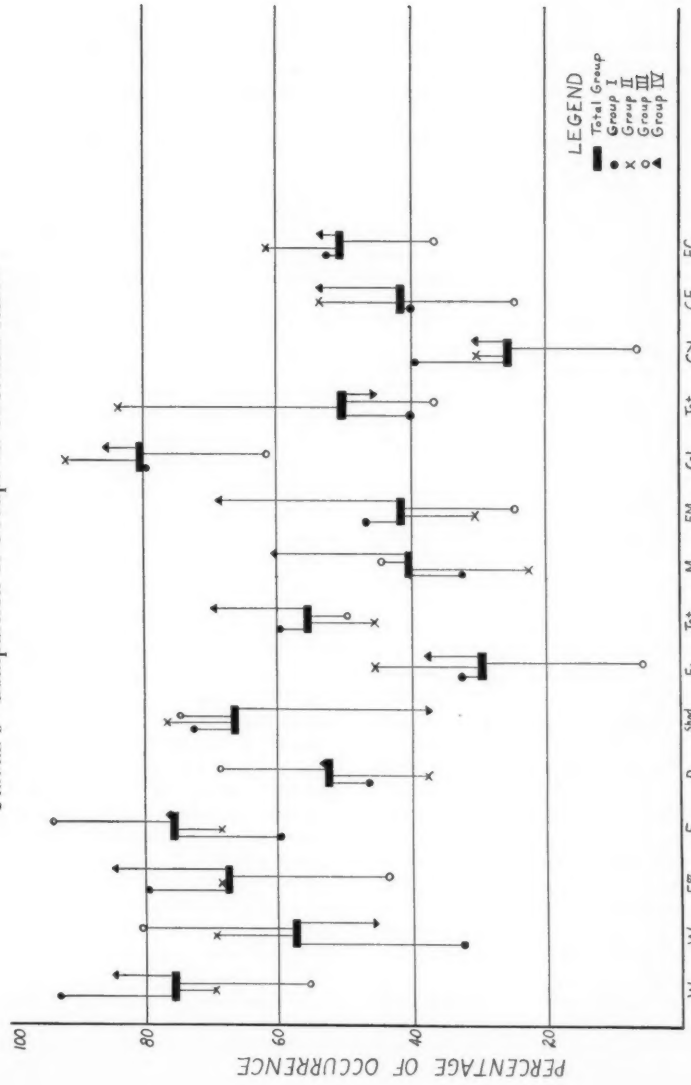

FIGURE 5—Comparison of Groups on Checklist Items.

gested that these similar trends are due to a different constellation of maternal variables. In the "restrictively warm" group (IV), reactivity to outer emotional influences would seem to be related to the combination of high ratings on restrictiveness, the indulgence variables (babying and overprotectiveness) and *Intensity of contact with mother*. The excessively high score on *Solicitousness for child's welfare* suggests that the maternal anxiety is communicated to the child rendering him less secure in emotional contacts. The emotionally immature patterns in the "restrictively cold" group (II) may be a function of high ratings on restrictiveness plus excessively low scores on warmth (especially *Acceptance, Rapport with child* and *Affectionateness*), and low scores on *Contact with mother* and *Solicitousness*. The latter two scores suggest that the child has to deal with presenting problems with a minimum of maternal guidance and support. His emotional dependency and insecurity is reflected in the excessively high score on Total Color.

There are similar trends on the intellectual items, W (+ −), F% and W Form between groups I and IV: the "ideologically democratic" and "restrictively warm" groups. On W (+ −) and F%, both groups are above the MEAN. It should be noted that the F% in this study was excessively high due to insufficient data for scoring determinants in a majority of the records. The maternal ratings show high scores on *Readiness of explanation* and restrictiveness together with moderately high scores on *Democracy of Policy* and *Understanding of the Child*. These ratings imply that maternal pressures are exerted in the direction of promoting the child's intellectual development. In group IV, this pressure for achievement is emphasized by the additional high rating on *Accelerational Attempt*.

The fact that the W Form is below the MEAN for both groups suggests that the parental policy overreaches the child's perceptive level in realistic terms. It is useful to point out that the Form Level per se is also below the MEAN for group I.

The scores on Total Movement and FM, both above the MEAN, may be taken to indicate that the parental push encourages the expression of imaginative strivings. The high percentages on M and FM for the "restrictively warm" group (IV) additionally suggest that the child has internalized adult standards, and that he may have accomplished this without too much anxiety (excessively low on Shading Shock). The low score on M in the "ideologically democratic" group implies that intellectually creative efforts are primarily on an immature level.

A reversal of the trends on the intellectual variables appears in the "restrictively cold" and "spontaneously democratic" groups (II and III). The item W (+ −) is below the MEAN, while W Form is above it for both groups. A partial explanation of the low W is that the ratings on *Accelerational attempts* are equally moderate in both groups indicating that the parents do not push for intellectual achievement. The "restrictively cold" mother probably has little motivation to do this since she takes care of most eventualities by setting up restrictive regulations (high scores); although she is moderately responsive in terms of giving explanations, the opportunities for parent-child contact are sharply limited as is evidenced by the excessively low rating on *Intensity of contact with child*. It is

suggested that the mother's motivation in the "spontaneously democratic" group is a function of a high degree of interaction between mother and child and an understanding of his needs which makes her willing to give explanations and allows him freedom to venture forth on his own (low restrictiveness). In both cases, the W Form scores above the MEAN suggest that the child attempts to meet the unambitious goals set by the parent and that he is fairly successful in so doing.

The Total Movement and FM scores below the MEAN may be interpreted as indicating a lag in the development of imaginative capacities and is consistent with parental policy of not pushing in intellectual pursuits. This thesis is particularly tenable for the child in the "restrictively cold" group in whose case the score on M is likewise below the MEAN. As regards the child in the "spontaneously democratic" group, the M above the MEAN suggests that he is making the transition from an immature to a maturer level of development in creative productions.

The trends found in the groups on Rorschach variables have been described and related to the maternal patterns of behavior. The emphasis in this study has been focused on maternal behavior as the significant factor in the child's developing personality. To what extent the maternal influence has been rendered less effective in competition with the other social pressures which impinge on the child, would be difficult to evaluate. The diminishing effect of the maternal influence on the seven-year-old child's personality is a complex variable which could not be controlled.

The paternal role has been studied less than the maternal. The psychoanalysts have pointed out that in the process of identification the child assimilates values derived from both parents. The process has positive as well as negative implications as the child matures into adulthood. Perhaps the paternal influence has been underemphasized and the maternal role over-exaggerated in our culture. One has the impression that fathers have assumed an increasingly active role in the rearing of their children, at least in some of our American sub-cultures. There are individual instances in which the paternal attitudes may be regarded as equal to those of the mother. It is certainly within the experience of clinical workers that fathers have often had the "mothering" role because circumstance, often economically dictated, has been a guiding factor in those situations. In this study, paternal attitudes were not included in the evaluation of parental behavior because there were few ratings on the fathers of the children of this sample. It is not overlooked, however, that paternal influences constitute another variable of consequence which could not be segregated in the evaluation of the maternal role on the child's personality.

Parental attitudes constitute the beginnings of social influences in the child's ultimate development as a social being. The family as a unit is a complex totality providing the child with value systems which help to determine his adult patterns of behavior. The interplay of sibling relationships is a factor of paramount importance in the child's social development as has been pointed out by David Levy. The children in our study include siblings for whom these intra-familial pressures exist and are probably interwoven in the patterns of

perceptual behavior appearing in their Rorschach responses.

The strength and complexity of these socializing influences are presumed to be operative but unmeasurable variables in the study. In the light of all these factors, those which were controlled and those which could not be, the results achieved by statistical analysis are as large as might be expected. The positive trends which emerged indicate the fruitfulness and promise that may be anticipated from research in this area particularly when techniques are developed permitting a refined analysis of this complex type of data.

Case Study

The following case study is cited in order to provide an example of how three discrete clinical sources can be tapped and their findings integrated for an understanding of an individual mother-child relationship. The material afforded by the behavioral ratings, the clinical description of the family as reported by the home visitor, and the independently formulated Rorschach evaluation of the mother's and child's personalities constitute the sources of this evaluation.

The parent selected for consideration typifies the "restrictively warm" mother. The parent behavior ratings and the home visitor's description have been reported in detail by Baldwin (1949) and are reproduced for the convenience of the reader. The Rorschach records of mother and child and the personality descriptions written "blindly" in the course of this study are presented as originally done without any alterations.

The full profile of the ratings on Ted Stone's[10] mother, who was rated when he was six years ten months of age can be found in the aforementioned study by Baldwin. However, the reader can refer to Figure 4 which presents ratings on cluster variables typical of the "restrictively warm" mother as defined in this study. The following description of the mother-child relationship is formulated from the totality of behavior ratings and is quoted verbatim from Baldwin.

"The warmth of the home is described in the first six variables. Mrs. Stone is above the Fels average on each, indicating that she is attached to the child and acceptant of him. Within the warmth cluster, *child-centeredness*[11] has the highest rating. This suggests anxiousness and possibly identification with the child. *Rapport* is the lowest of the warmth variables, which may mean the child does not entirely reciprocate the parental affection.

The high ratings on the three indulgence variables confirm the previous suspicion of parental identification with the child. Ted is babied and anxiously protected from external hazards. In Chapter II, a pattern of overcontrol, especially interference, was mentioned as a likely accompaniment to indulgence. The ratings on *quantity of suggestion* and *readiness of criticism* confirm that statement in this particular case. The high ratings on *restrictiveness* and *coerciveness* are a part of the same pattern. *Activeness* and *coordination*, which are also above the Fels average, denote a well-run household. In this context of anxiousness and restrictiveness, we might presume the home is meticulously run, even rigid in schedule.

Democracy is rated at the mean; one of the two variables in the cluster is just below the average and the other just above. It is a little surprising that they are so high, for ordinarily high ratings on restrictiveness are accompanied by a more autocratic pattern. The most reasonable explanation is that Mrs. Stone makes the gesture of consulting Ted and even accepts his opinion if it coincides closely enough with her own. In any case, she is certainly willing to give him his way in any non-essential areas. Thus, the rating on democracy might reach a level as high as the Fels average.

The picture is now one of restrictive indulgence. The rating of *readiness of*

[10] This is the pseudonym used by Baldwin and adopted for consistency herein.

[11] The italicized words refer to individual rating scales.

RORSCHACH RECORD OF MRS. STONE

Age: 32 Years

Responses	*Inquiry*
CARD I	
20″	
1. X-ray of chest. WS F− Anat.	1. Take from the back—cavities are bronchial tubes.
2. Mouth of animal. SD F− Ad	2. The outline of the middle upper edge is the edge of the lower jaw with the teeth (Dd) protruding. The view is directly into the mouth.
3. Shape of a butterfly or a bat. W FMc+ A P	3. Whole blot, bat in motion—texture.
1′ 15″	
CARD II	
15″	
1. Lake (white space) with path leading to religious building (top detail). Ds Fc+ Ls. (Rl.) (FK)	1. Ds 5 + D4
2. Mouth of animal. D F− Ad	2. Top detail is the tongue or reversed is the soft palate—the edge of the mouth is the outline suggested by the two red parts with lower segment of the outline missing.
3. Butterfly—lower red. D F+ A P	3. Form the only determinant.
4. Great fire—lots of coals and flames. W CFc Fire	4. The lower red are coals, the black part are shadows of the fire and the top red are flames.
55″	
CARD III	
5″	
1. Bow tie. D F+ Per.	1. Center red—form only.
2. Silhouette of two boys rocking on nursery school boat. D M+ H P	2. Cut off whole all except red.
3. X-ray D F− Anat.	3. Looking into chest cavity. D8.
4. Formal design with lots of different colors in it. W CFc Art.	
45″	
CARD IV	
5″	
1. Bear skin flattened out. W Fc Ad P	1. Whole blot—texture.
2. X-ray of esophagus as it goes down lungs and ribs. D Fc− Anat.	2. Could be view from back with spinal column and lungs.
3. Bat. W F+ A	3. Not much like bat; sort of wings.
4. Waterfall. Dd F+ Ls. (m)	4. Water falling at extreme top; falling through narrow gulley. Dd 30.
55″	

Card V

22″

1. Bat. More in motion this time.
   W FM+ A P

2. Roots of teeth—top detail. (The ears are the roots and the head the tooth proper.)
   D F− Hd

3. Back of lady's head with fur scarf around her shoulders.
   Ws Fc Hd O

1′ 25″

D8 + D7

3. The entire blot is the fur scarf. The two ears at the top are rolls of hair. The head is in the white space above the blot.

Card VI

30″

The blots are always the same thing from different positions.

1. Animal flattened out—x-ray from back view of spinal column.
   D Fc Anat.

2. Animal skin flattened out.
   D F+ A

3. Formal design such as Indians use in blanket.
   W F+ Art.

4. View from above of a deep ravine with higher ground on each side.
   D Fc Ls
   (FK)

This is the most difficult of all.

1′ 30″

Card VII

20″

1. Looking into mouth of some animal.
   S F− AD

2. Formal design of two balanced rocks.
   W F Art.

3. X-ray picture of ribs where they join.
   W F− Anat.

4. Two faces.
   D F+ Hd.

2′ 5″

1. White space is the mouth, the nose which should be above it is removed and the bones of the jaw have come together.
   (Ds 7)

Card VIII

15″

1. X-ray of chest.
   D F+ Anat.

2. Design of two bears going up.
   D F+ A, Art. P

3. Formal design—opposite sides are alike.
   W F Art.

50″

1. All except the animals on side, taken from back showing the curvature of the ribs.

Card IX

20″

1. X-ray taken from the back of spinal column.
   W F− Anat.

1. Whole blot could be from the front, the curvature could be either direction.
   (D2)

2. Two scotties; dogs' heads—(deer heads in middle olive green).
D F+ Ad

3. Distant path going to big steeples or else leading to a band shell.
D Fc Ls O
(FK)

3. Path is center spike, band shell outlined by tiny orange projections.

1'

CARD X

20"

1. Piece of statuary.
D Fc Nat. O
(FK)

1. The gray at top, the statue is the tiny line in the middle of the vertical spike, the spike and the other parts of the gray are the walls of a cave. Looking into a room of Mammoth Cave where September Morn is located.

2. X-ray of chest—bones come together.
D F− Anat.

2. (Both D6) (Blue Center).

3. Formal design—two sides equal.

4. Sea animal—octopus (blue lateral).
D F+ A P

4. Blue lateral (D1)

5. Stationary steam engine.
D F+ Rc.

5. The gray part at top. Spike is smoke stack. Like engine that came with tinker toy.

RORSCHACH SUMMARY OF MRS. STONE

R: 37 Time: 12' 20"

W	13	M	1	H	1	P	8
D	18	FM	2	Hd	3	F+%	57%
Dd	4	FV	(4)	A	7	F%	65%
S	2 (3 add)	F+	12	Ad	5	A%	32%
		F	3	An	8	%R	VIII–X 30%
		F−	9	Ls	4	S	5
		Fc	8 (1)	Fi	1	App:	*W* –D – Dd
		c	(2)	Per	1		
		CF	2	Art	5	EB	1:2
				Na	1	Succ:	irregular
				Rc	1		
				Rl	(1)		
				Arch	(1)		

RORSCHACH RECORD OF TED STONE

Age: 7 Years, 5 Months

Responses *Inquiry*

CARD I

10"

1. These are something like eyes.
Dds F− Hd

1. Shaped like.
Dds 29

2. Something like wings.
Dd F+ Ad

2. Straight out (gestures . . .)
Dd 21

3. Something like feet.
D F+ Hd

3. Toes like feet, out like upper top detail of side.
(D 2)

55"

(*Limits* sees bat, yeh, whole thing.)

CARD II

2″ Oh, boy

1. These look like clowns' hats.			1. Have their shape and colored like (D 2)
D	FC	Cg	
2. These look like fire.			2. Shaped like fire (violent gesture) and color of (lower red D 3)
D	FC	Fire	
3. A big eye.			3. Kinda round like an eye (spot within side black—D 1)
d	F−	Hd	

Thas all 35″

CARD III

12″

1. These look something like fire.			1. Because, look like, shape like (gesture) (D 2)
D	FC	Fire	
2. Ribbon for girl's hair.			2. (If black?) No, and shaped like (D 3)
D	FC	Per	
3. Face, hands.			3. And the bodies right here, (how?) like we have, and see, the neck and hands, looks like might be talking to each other. (D 1)
D	F+	Hd+	
D	F−	Hd	

Thas all 1′ 32″

CARD IV

mmm 20″ (pats card)

1. Head of an animal.			1. Like tiger head, shaped like tiger and ears and mouth (D 3) (upper detail center) (usual feet) (lower rt. detail).
D	F+	Ad	
2. Feet of a monkey.			2. Usual feet-lower right detail.
D	F+	Ad	
3. Look like wings.			3. Bird wings to me (D 4)
D	F−	Ad	
4. Head of an animal too.			4. Deer, if standing up, the way the ears should be, horns, eyes, he's laying on ground flat (part of D 1)
d	F+	Ad	

42″ (Stretches across table, limp.)

CARD V

10″

1. Head of a rabbit.			
D	F+	Ad	
2. Rabbit legs, legs too, bet I know.			2. (Re the second legs) all animals have 4 legs. (Strokes card again.)
D	F+	Ad	
3. What this is, a rabbit, rabbit fur. (Strokes card.)			3. Something like horses' head.
D	c	Ad	

45″

CARD VI

Boy 2″

1. Head of bomber, fighter, looks like wings.			1. Of same bomber, tail, front, wings, whole plane.
dW	F−	Imp.	
2. Foot of an animal.			2. Shape of a foot something like a horse.
Dd	F+	Ad	
3. Looks like his hair (more stroking).			3. (D 6)
d	c	Ad	

1′ 35″

CARD VII

3″

1. Looks like feet.
   D FM+ Ad
2. Looks like some more feet.
   Dd F+ Ad
3. Fur of an animal (rubs).
   D c Ad

58″

1. Animal feet, looks like walking (D 8)
2. The same (Dd 25)
3. (More rubbing, almost purrs over card)
4. Face of a monkey!
5. Pig face and nose and ear.
6. Lion face.

CARD VIII

Oh boy! 2″

1. Fire (scratches at card, very excited).
   D CF Fire
2. Sky.
   D C Nat.
3. These look like animals, animals.
   D FM+ A P
4. Mountain.
   D Fc Ls
   (FV)

47″

1. Color and shape of fire. (D 2)
2. Color (D 5).
3. You can easily see them, walking up mountain (D 1)
4. Roads going up mountain, points like. (D 4)

CARD IX

mmm 1′

1. Looks like clouds in sky, *if* they were white.
   D F− Cl
2. Something like ice cream, cone held up.
   D CF Fd
3. Something like people, witches on Hallowe'en.
   D F+ H P

1′ 05″

1. Shaped like and look like, sorta like white and blue. (D 1)
2. Strawberry ice cream. (D 4)
3. Looks like witches, noses, hats, looks like flying. (D 3)

CARD X

2″ boy!

1. These look like flowers.
   D F Bot
2. Blue-fire works.
   D m Fire
   (C?)
3. Something like some kind of animal.
   D Fc A

64″

1. Tops of 'em, center like, and shaped like (D 2).
2. And looks like a parrot face (D 1).
3. A mouse, head, feet, tail and fur. (D 8)
4. Looks like head of animal.
5. Looks like green snakes, and color of.
6. Rabbit head, eyes and ears up, like rabbit ears.

Note:

As exclamations indicate, had a good time whipping through the cards, peering intensely at each one, using head and shoulders and whole trunk at times to indicate the way the figure in card was moving, far more obviously casual patting and stroking of the "furry" cards than is usual; cooperative but somewhat condescending and bored on the inquiry, then excited afresh as he made new discoveries. A kind of precision, pointing out for E on location chart.

Rorschach Summary of Ted Stone

R: 33 Time: 10'

W	1	M	0	H	1	P	2
D	25	FM	2	Hd	5	F+%	65%
Dd	3	m	1	A	2	F%	55%
d	4			Ad	13	A%	45%
		F+	11	Cg	2		
		F	1	Fi	4	%R	VIII–X 30%
		F–	6	Per	1	S	0
		Fc	2	Imp	1	App.	(W) – *D* –*Dd*
		c	3	Na	1	EB	0: 5.5
		FC	4	Ls	1		
		CF	2	Fd	1		
		C	1	Bot	1		

enforcement contributes a definite flavor to the interpretation. The mother is restrictive, but lax in enforcement and also, we see, mild in her punishments. The home begins to appear verbal and nagging, but without any core of enforced disciplinary policy. When ratings of low *adjustment*, high *discord*, low *effectiveness of policy*, and high *disciplinary friction* are added, the suspicion arises that Ted does not conform to his mother's standards. She talks and nags, but achieves little. The fact that approval is still high in spite of all this conflict and discord might be interpreted as a determined effort by the mother to see the boy in the best possible light.

In this home *sociability* is rated low. It was suggested that in restrictive indulgent homes a low rating on sociability appeared to indicate a paranoid outlook upon the world. Mrs. Stone is warmly attached to Ted; at the same time, she is rather cold and unresponsive to the rest of the world. Such an intensity of warmth and affection toward the child, when it is not part of a generally warm personality, might indicate an unusually close and emotional attachment to the boy.

A few more ratings round out the picture; a low rating on *understanding* makes it clear that the mother has little insight into what Ted wants and needs but instead is projecting on him her own motivations. It also suggests the reason for the lack of success indicated by the low rating on effectiveness. The boy is not understood, yet he is bossed around, nagged, but can successfully disobey, encountering as punishment only more verbal nagging."

The clinical description of the home is now quoted verbatim as written by the home visitor and it comes from the same source, (Baldwin, 1949).

"As a mother, Mrs. Stone has been from her child's earliest infancy a tense, keyed-up, apprehensive person. While never becoming so disturbed or unhappy as to be forced to seek psychotherapy, she has, through the years, made it clear that her life is unsatisfactory to her and that her only reward is in her relationship to her son.

Mr. and Mrs. S., each an only child, were married when they were twenty-five; both are college graduates, Mr. S. having an advanced degree. Mrs. S. had a professional career before her marriage, did some substitute teaching afterwards which was terminated with pregnancy a year or two later. It was a planned conception.

One of the most salient factors about Mrs. S's. personality is her inability, even refusal, to form close emotional ties with other people. Significant exceptions to this have been her attachment to her mother and to her son. She has long planned to re-arrange her husband's life and the family situation as a whole by moving back to her birthplace; her explanation of that has been that she will inherit the family's property and that she must be on the site for the proper administration of the estate. However, there is an underlying thread of "back to mother" tone in her scheme. On one occasion she stated quite bluntly that if her husband wouldn't make the move she would simply pick up Ted and go by herself. Marital adjustment has always been tenuous, and Mrs. S's. contempt for her husband is thinly veiled. Though she is conventional enough to have made surface pretense at some sort of marital attachment, she has been blunt and open about her attitudes toward the world at large. Once she remarked that "I don't like to get close to people—you get too involved with friends." She is quite aware of the degree of her absorption in her child, has said to the home visitor that

no one, even her husband, understood her sincere attempt to make Ted a healthy happy child, adding, very emotionally, that she had sacrificed her life for him.

These various factors in her own personality have inevitably been reflected in Mrs. Stone's behavior with Ted. In infancy it was revealed in tremendous rigidity of schedule, in toilet training begun when the baby was three months old, in constant acceleration and overestimates of the child's ability. Having identified herself completely with her product, it was necessary that the child himself be immaculate, perfect in behavior, precocious intellectually. Then and later she was completely unrealistic about him, generously interpreting every squeal, for example, as a meaningful syllable and translating for the benefit of the visitor. Now that he is school age this trait is revealed in her calm assumption that any criticism of Ted, from child or adult is the product of willful and unjustified malice. When incontrovertible evidence is presented of some mischief he may have done, she is quick to find the scapegoat who "led him into it," though she is on such occasions grievously disappointed with the boy for being amenable to such pressures.

Great solicitude for Ted's moral and physical welfare has been evident from the beginning, but the fact that he early showed himself prone to upper-respiratory infections and was later discovered to have a number of allergies crystallized all the mother's existent anxieties. Despite her acceleration of mental activity, she was babying to the point of being retardatory in other areas—continuing, for example, to feed him part of every meal because he voluntarily finished only those foods he liked and she was fearful of what an inadequate diet might mean; this process was carried on, therefore, until he was six or so.

Standards for Ted's behavior are, and always have been, exceptionally high. The mother's goal has been to reproduce an adult-child, but a very sober and inhibited kind of adult. A left-handed compliment—"sometimes he's just a perfect little gentleman, so quiet and serious"—was given in apology for some typical and small-boy silliness he had shown before the visitor. Another time she was worried because he had started using exaggerated or nonsensical language: "Ted used to be so straightforward and simple, and now he's taken this up from Jerry, and I do think it does cheapen a child so."

The discipline area is conflict-provoking for the mother. On the one hand, she cannot tolerate infractions of her high code for Ted's behavior and is ever watchful to see that he conforms. But when misbehavior does occur, she is loathe to punish because of her devotion to the child. Compromises frequently emerge; for example, on one occasion he was sent to bed an hour early as a punishment, but Mrs. S. decided she'd been overly severe and went to the bedroom and read to him for the extra period."

The personality evaluation of Ted as derived from his Rorschach protocol is described by the writer in these terms.

"Ted is an exceedingly insecure child who reacts to environmental stress with an intensity of feeling out of proportion to the presenting situation. He seems to feel the need of responding with hyperactive, motor behavior as if to assure himself that the situation in which he finds himself is a non-threatening one for him. Perhaps further contact with the object of love and security in his setting is assurance to him that he can function with sanction and permissiveness. Within himself, he senses dissatisfaction, probably vague and undefined, stemming from the frustrations inherent in being overly-dependent on forces outside of himself for control and direction.

It is fairly evident that Ted's intellectual capacities have been slow to develop in accordance with the expected healthy norms of his age group. He lacks totally the power to make an approximation of his world; instead he explores the concrete and objective aspects of his environment, insistently and anxiously, as if expecting something unpleasant or unexpected to happen to him. He is below par in fitting in with group modes of behavior, although in individual situations, he is probably warm and responsive to interest in himself. On occasion, he is sensitively shy and passively inert, but he can be impulsive and infantile in his reactions at other times.

There are some hopeful signs in the protocol. Ted is making efforts to control his anxiety and to respond to stress with some measure of self-assurance. A core of self-assertiveness exists, and although he has been thwarted in his efforts to utilize his creative and imaginative powers, the latter are not too submerged but that a favorable combination of forces will encourage their expression.

There is a hint that feminine dominance has been dynamically significant in his development.

As has been pointed out, there are healthy indications for future development but the current record is indicative of a maladjusted child, with security and dependency needs looming as the focal areas bearing scrutiny."

The writer's personality description of Mrs. Stone based on the latter's Rorschach protocol is as follows:

Mrs. Stone feels herself "put on the spot" by a presenting problem, particularly if this involves intellectual performance concerning which type of activity she is defensively sensitive as an overall problem. She is apt to react in hostile fashion, although one would expect her hostility to be discernible in indirect insinuations or critical observations. She is hampered by a sense of self-consciousness, a self-critical attitude for which she tries to compensate in some measure by an ambitiousness in intellectual pursuits. Although she is a person of good average competency, her critical capacity is mediocre, and of this she possibly has some conscious awareness. She may resent the necessity to turn to others in her setting for direction and the setting of goals, although it is likely that she makes a show of determining policies herself.

She is emotionally repressed because she knows from long experience that she is apt to be impulsive and partially victimized by her own emotional response to others. Basically, she has some distrust of humans, harking back to earlier experiences which probably traumatized her to some extent. She resists, therefore, becoming involved in emotional situations if she can help it, and substitutes more cautious, guarding techniques as routine practice. She must maintain a vigilant control because on an unconscious level, she is egged on by primitive urges to express aggressive, even destructive impulses toward others. The neurotic struggle is a costly one for her.

Not only is she kept on the alert intellectually but she appears to have intense anxiety in hypochondriacal areas. If we have any clear indications in the record, her fears, if unrealistic, may be a bid for love and attention on a level of physical well-being. If realistic, she may have cause to be worried about illness related to the chest or spinal regions. This could be a basis of identification with some individual who figures prominently in her early life.

The problems posed by the acceptance of human interrelationships in wide social situations she deals with in slavish adherence to conventional dictates. One feels that she tries to deal similarly with problems of heterosexual adjustment, and somewhat unsuccessfully. She is most likely maladjusted sexually, probably passive and yielding as a matter of course, but finding herself repulsed emotionally.

The record implies neurotic maladjustment in a person whose problems started rather early in life. It would also suggest that she had tried to make a self-disciplined adjustment, but a costly one in terms of her own personal development.

The writer feels no particular urge to tabulate the areas of agreement provided independently by these three techniques, namely: Rorschach protocols, parental rating scales and clinical description of the home in the case cited. Obviously, this degree of agreement would not occur in every individual instance. It need not to provide the clinicians responsible for making diagnostic and prognostic judgments in individual situations with information that will improve the validity of the judgments made. Baldwin's thesis that the parental rating scales provide a useful clinical tool in the appraisal of an individual home is carried a step further in this investigation by the writer's suggestion that the results of Rorschach study be integrated with the insights yielded by psychiatric interview, parental ratings and home visit. The case study was cited to illustrate this latter thesis.

Summary

1. The Individual Rorschach records of a sample of 57 children from the Fels population, aged 6 and 7 years, were evaluated to determine what personality factors might be related to varying methods of parental handling.

2. The patterns of maternal behavior as evaluated by the Fels Parent Behavior rating scales on 38 mothers differentiated the four groups of children.

3. The Rorschach scores transposed into Munroe checklist items were analyzed by the exact method to determine the extent of intergroup differences. It was not expected that significant intergroup differences would be established. The differences found are of sufficient magnitude to indicate that there is positive correspondence between maternal attitudes and personality characteristics assessed in the children's Rorschach protocols.

4. A descriptive analysis of the Rorschach records was presented which related the positive trends within groups to maternal influences.

5. A case study was given providing an example of the usefulness of Rorschach data, ratings of maternal behavior and a clinical description of a home characterized as "restrictively warm."

6. Indications for further research were pointed out particularly with reference to the perceptual significance of high *form* scores in children of this age, the use of the Munroe checklist with children and its "adjustment" potentialities for the same age group. Those research institutes engaged in longitudinal studies of children provide a particularly fruitful source for the investigation of these problems.

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The Use of the Rorschach in Preventive Mental Hygiene[1]

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We are here this evening to take stock, at least in some area, of the state of our science and our art, and perhaps sound something of a keynote for the future of our projective techniques. What then is at least one area of current and special interest today?

Just as in the field of medical science, where a great emphasis has recently been placed on preventive medicine and public health, so do we see about us today like demands in the field of mental hygiene. You will never, we are told, have psychologists in such legions, as will suffice to minister to the needs of all the disturbed and unhappy people in the community. Why wait until they fall from the cliff and then spend months and years in therapy, to heal their wounds. Why not rather build a fence around the cliff and save them before they fall? Surely this is a very special challenge of our times which we must meet.

Prior to 1946, The Division of Mental Hygiene of the U. S. Public Health Service concerned itself largely with narcotic addiction. World War II, with its high proportion of draft rejections for neuro-psychiatric disorders and the high neuro-psychiatric discharge rate from the Armed Forces, awakened the nation, as did nothing before, to the importance of mental hygiene. In 1946 Congress responded by passing the National Mental Health Act. The Act constituted a declaration of intent to provide funds for a broad program of research, training and state aid, in the development of means of dealing with our mental health problem.

But are we ready to meet the challenge? Tremendous effort is expended in preaching a gospel of whose implementation we, who preach it, are in large measure ignorant.

What are the limits of normal turbulence in child development in a difficult world? What are the signs that, in a particular case, these limits are transcended? When is it indicated that the child be left alone to wrestle with the angel and develop and grow strong thereby? When is intervention called for? If called for, shall it be through simple manipulation of the environment, such as changing schools, or is some form of therapy in order?

If you find some validity to my remarks tonight, it is my hope that this keynote I am trying to sound may prove a call to action. Those of you who are in a position to undertake or encourage research projects may find in what I have to say, some suggestions or hints to help meet the great challenge which the community has imposed upon our profession.

In envisaging the mental hygiene of the future, I like to picture the Rorschach as playing a unique and important role. It is that of recurrently studying the adjustment potentials of the individual prior to his entering each new phase in his psycho-cultural development, in an effort to learn whether he has whatever may be

[1] Adapted from a Presidential address to the Society for Projective Techniques at its annual meeting on September 5, 1951 in Chicago.

the personality requirements which will make for adjustment and growth in the period he is about to enter. If, in varying degrees, he appears lacking in these requirements, it is to be hoped that an early recognition of these lacks may make it possible to do something toward developing them, or toward finding substitute ways of meeting the situation.

Before this can be done, three prerequisites must be met: 1. The various periods must be recognized and their requirements understood. 2. These requirements must be translated into their Rorschach counterparts. 3. The suggestions of stress which are likely to appear in the Rorschach must be carefully weighed, in an effort to determine whether they call for intervention, and, if so, what kind of intervention they call for.

But at this last prerequisite we find ourselves stopped. So little is known as to when to intervene, when to try some other method beside psychotherapeutic intervention, and when to let nature take its course. Anna Freud (1945, pp. 127-149), in an article entitled "Indications for Child Analysis" says, "We are only slowly learning to distinguish the various characteristics that mark a neurotic disturbance as either transitory or as permanent. . . . The impressions of a serious interruption is frequently misleading. After a shorter or longer duration symptoms may suddenly lose importance; the fixation may dissolve and the libido, freed from restrictions, may resume its normal progressive flow. The child has, as the popular saying goes 'outgrown' the neurosis and therapeutic help has become unnecessary. . . . There is only one factor in childhood of such central importance that its impairment through a neurosis calls for immediate action; namely, the child's ability to develop; *not* to remain fixated at some stage of development before the maturation process has been concluded. The suggestion is therefore to assess the seriousness of an infantile neurosis according to the degree to which it prevents the child from developing further. . . . Emphasis is here shifted from the purely clinical aspects of a case to the developmental aspects. . . . When diagnosing a case from this point of view, the therapist working with children has to be as intimately familiar with the normal sequence of child development as he is with the neurotic or psychotic disturbances of it. He is actually faced with the task of judging the normality of the developmental process itself" (Freud, 1945, p. 136). In short, fixation, rather than turbulence per se, is Anna Freud's criterion for intervention.

Anna Freud also raises the question of how much help diagnosis of this kind can receive from psychology. She says: "Of the various psychological tests the Rorschach test goes furthest in inquiring into the state of libido development and its disturbance. It is to be expected that in time testing methods will be devised to cover an increasingly wider range of factors on which a satisfactory diagnosis of infantile neurosis can be based." (Freud, 1945, p. 149.)

It seems to me possible that the lack of ability so to diagnose is not due to inadequacies in our present testing techniques, but to the fact that we possess insufficient knowledge of what the terms *normal* and *adjustment* mean at various stages of child development. Possibly the first step in distinguishing between wholesome development despite disturbance, and

true maladjustment, is to recognize that the word adjustment represents a plural entity in which new conditions create new demands; thus presenting the necessity for a continuous series of adjustments in life.

The Rorschach, as I see it, is eminently equipped to study the individual in this longitudinal sense; noting the adjustments he has carried over from his past; differentiating between the capacity to move forward, and fixations, or regressions.

But to do this we must not only know what each period requires, we must know how to distinguish between normal and neurotic indications of disturbance at each period. This research still lies ahead of us. It is too early to speak of what may come from it. Whatever is said here tonight must be said with tentativeness and humility, not as facts we know, but as hypotheses we would raise, as we look forward to the work which we trust will some day be done.

I am restricting what I am about to say to neurotic difficulties and character adaptations which inhibit growth. The subject of childhood psychosis presents problems beyond the scope of this talk.

Growth in our culture is often thought of as a progressive development through the following eight stages:

1. The infancy or pre-language period.
2. The pre-school period.
3. The early latency period.
4. The pre-puberty period.
5. Adolescence.
6. Young adulthood.
7. Maturity.
8. Old age.

Two words of warning seem in order here. First, in considering these eight categories of development, we must not lose sight of the fact and extent of overlapping from one period to another. Second, we must always remember that every individual is, at any moment, the resultant product of all his past experiences.

As I think of the stresses inherent in each of these eight periods, I am aware that a large subjective element is involved. Different individuals would emphasize different aspects. Some which seem important to them may be missing from my list.

This presents a real difficulty to me since I am no authority in this area. But this is so largely an untrod path, that faltering footsteps are inevitable and justified by the lack of a well defined road. I am simply thinking of this as an early search for the trail, in the hope that later, better and more experienced people can proceed along it.

One very illustrious trail blazer has already preceded me. Erikson (1950, p. 218) offers "a list of ego qualities; criteria by which the individual demonstrates that his ego, at a given stage, is strong enough to integrate the timetable of the organism with the structure of social institutions." He lists eight stages of man, drawing up a dichotomy for each stage, in which the condition necessary for growth is balanced with the growth-inhibiting situation. Frequently, in the section which follows, I will also refer to Erikson's eight stages, which largely overlap, but do not completely parallel the eight stages I have just listed.

The Infancy and Pre-school periods are, of course, the foundation period upon which the future structure must be built. It is the time, when, according to Erikson, basic feelings either of trust or mistrust are established. In bring-

ing about feelings of trust, attitudes would seemingly be demanded on the part of the environment which will never again be appropriate; a permissiveness which is quite different from "spoiling," since it recognizes that only gradually can limits be established, and that these very limits must be established by the child, because *he* is ready for it, and not by the adult, because *he* wishes it. If sound ego development and satisfying interpersonal relations are to be established, the child must feel himself so secure and so accepted, that he dare experiment, and that he can gradually set himself limits, without a sense of ego-threat or diminution. Mothers, Erikson feels, create a sense of trust in their children by "the kind of administration which, in its quality, combines sensitive care of the baby's individual needs and a firm sense of personal trustworthiness, within the framework of their culture's life style." (Erikson 1950, p. 221.)

Infancy.

If we could have Rorschachs in the pre-language period, we have theoretical reasons to assume that the response to shading at this period would be a c, indicative of a large, all-embracing need for closeness. All subsequent Rorschach reactions to shading depend on the degree and the kind of satisfaction of this need. At one extreme is rich inner growth, accompanying adjusted capacity for relating and empathizing. At the other extreme is a continual search for the equivalent of the c. This search may take various forms. Essentially, however, it is a search for security; a wish to "belong" which can never be satisfied, since whatever form it takes, is a disguise for the all-enveloping need, which can only be appropriately fulfilled at the beginning of life.

It is sad that we cannot give this first Rorschach, for none of the frustrated alternatives of Erikson's eight stages have yet appeared, and so, potentially at least, the adjusted alternatives *could* be developed. We can only hope that the stress placed by child psychiatry on the importance of this age, the educational and psycho-therapeutic help which is increasingly being offered to parents, and the increased adjustment which we hope preventive mental hygiene will make possible to each new generation of parents, will gradually have the effect of reducing the amount of frustrated c which by the time we find it in the Rorschach, has taken on its many forms.

It *does* seem to me however that one practical gain can come from a recognition of this hypothetical first Rorschach. We can be sufficiently aware of the persistence of the insecurity inherent in a thwarting of the need for closeness, to be able to see through its disguises in the Rorschachs which we *are* able to give. We may then see in certain of the later Rorschach pictures of disturbance merely a new expression of the frustration of this first basic need.

Pre-School Period.

Somewhere between age 3 and 5, the first longitudinal Rorschach *can* be given. I have already stressed the urgency of having a yardstick of normal adjustment, and a picture of the normal strains which each period imposes. It seems to me that the "normal strain" at this period is inherent in the necessity already referred to, of having to learn limits and to fit into the environment. This strain is inevitably intensified in the degree to

which the parents are themselves anxious and insecure. Gradually, in this period, the egocentricity and the emotionality of the child must be transformed into a genuine wish to share and to participate. Interests which transcend the satisfaction of the minute must begin to take on such meaning as to make the sacrifice involved in delaying the immediate pleasure for the sake of the goal, no longer a real sacrifice. In Rorschach terms we would look in this pre-school period for early suggestions that the excess CF will gradually be absorbed into genuinely felt FCs; that FMs will be so well integrated into total functioning that m need not be prominent in the protocol of the future, and that enough stability is building up to satisfy us that creative outlets for the present exuberance will develop, and that M will put in its appearance at the appropriate time.

But for this to happen the pre-school Rorschach must contain the eagerness and the spontaneity out of which these Ms will grow. CF then, should be greater than FC. Such precocity as may appear should be of a spontaneous, unrestricted kind, with certain minus responses present, as welcome testimony that the child is able to be frankly "pre-school" when he so desires.

In the series of pre-school studies undertaken by Klopfer and others, (Klopfer and Margulies, 1941; Kay and Vorhaus, 1943, and Vorhaus, 1944) a beginning has been made of working out developmental age patterns, so that even at this time certain comparisons between adjusted and maladjusted adaptations can be made; and the premature "little lady" or "gentleman" can be recognized.

Early Latency Period

I come now to the early phase of the latency period. The early school period is the time when the child must adapt himself to the fact that he is a *school* child, must learn to relate to his contemporaries, and to adjust to school requirements; again without feeling threatened by the sacrifices entailed, or minimized by the need to relinquish the central position he held in his home.

Only if he can do that, will he be able successfully to enter the second stage of the latency period, the pre-puberty phase, in which he sets himself apart from the home and its values, allying himself instead with his own contemporaries and the standards these contemporaries hold sacred.

The early stage I would place roughly in the years between 5 and 9 (from the kindergarten years until the group or "gang age" is really underway). The stresses which surround this period center around those pulls, both in himself and coming from the outside, which make this new step difficult to take, and which may therefore cause regression to the easier pre-school past. Rorschach evidence of adjustment toward the end of this period would seem to be a readiness to change the earlier (CF greater than FC) relationship to the gladly given higher FC of affection and cooperation. Reality requirements can now be met, since the child has positive feelings to this new world, and wants to fit into it. Minus responses have disappeared, and large Ds and popular responses established. FMs occur in larger number, as the child stops using the blot merely as a jumping-off place for his imagination, and instead becomes interested in build-

ing on the actual material which his new interests place before him. Toward the end of this period M and Fc should also start. But before the M can appear the child must feel sufficiently secure in his new environment and sufficiently accepted, that he dare assert his individuality and his ego needs. Only as this happens can he develop the idea of reciprocity, the realization, based on empathy, that the others have the same wish for self-expression which he has, with the same right to satisfaction which he demands and enjoys.

Pre-puberty

With this as a background he is ready for the second phase of the latency period: the time when he begins the long task of learning to stand on his own feet. When this task is successfully completed, it culminates in his becoming an independent and mature adult.

It seems to me that when he *does* stand alone in this adjusted sense, he is able to do so without loneliness or a sense of isolation. But this can only come about gradually, each phase in the developmental history being, as it were, a preparation for what is to be. Initially the child had to feel secure in his home, then he had to sense that the home willingly relinquished some share of him to the larger community. He now has to feel that both the home and his community understand that it is no disloyalty that he should want to narrow his sphere of interest and seek a second small, secure world, which centers in his contemporaries (just as formerly his small secure world centered in his home). He does not understand in words that this new world is his proving ground. Earlier, the satisfied need for closeness (the c of his infant Rorschach), had made it possible for him to fit into the new world of the school, without insecurity or diminution of self. Now, by incorporating the comradeship of his contemporaries, he will gradually be able in adolescence to struggle toward achieving "oneness", a oneness which is really an expansion of himself to include the group, through identification with them.

This group or "gang age" then, is the period when "sameness" becomes important, when the child's need is to merge with his age group and to gain the sense of solidarity on which ego strength depends. It is the period which will determine the success of the stage which Erikson calls "Intimacy versus Isolation." (Erikson, 1950, p. 229.) If the child himself has reached this age successfully, the chief danger that threatens him is that the parents will not understand the wish to separate himself from them. The tendency to be less interested in the approbation of others than in the approval of "the gang" characterizes this period.

In Rorschach terms this would seem to mean a temporary relinquishment of the self expressive drives inherent in the movement responses, and even some cessation in the strength or intensity of relationship feelings (a decrease in color responses). The psychological need at this time is less that of strongly felt individual friendship, than it is a sense of group solidarity. Rorschach "Testing the Limits" should offer the heartening knowledge that the lost determinants are present in latent form, ready to put in an appearance when the child has so truly established the security of "belonging" that he is able to start investigating where he, as an *individual,* stands. Once he has be-

gun to concern himself with such a question, the period of natural construction is over. The transition to the adolescent period has been accomplished.

Adolescence

Margaret Mead (1928, p. 197) has made it clear that this period is not one of crisis in all cultures. In our culture, however, it is often a period in which unresolved difficulties are re-energized, and one in which latent conflicts sometimes become activated. The child must now go from a close but impersonal merging with his contemporaries, to establishing a relationship with his whole society. This developing relationship must not only become larger in scope, it will also be essentially different in quality, for a new subjective element must be merged into it, the need for self acceptance. The stress inherent in this period seems to me to be that not only does the individual now shift his emphasis, so far as his need for outside acceptance is concerned, but he also comes face to face for the first time with the need to *accept himself,* to find those values which make him a unique personality. He must do this, while at the same time increasing his relationship to the enlarged group. His family now becomes his proving ground, his parents serving both as a pattern and a warning. He concentrates on them with eyes which are simultaneously critical and wishful. It would be so easy and so wonderful if, in his new found need to establish his place in the adult society, he could follow their lead. But something in him says *"no*—if I do this I will merely be an echo. I must find my own values." Though he does not know it, this means finding what he can judge "wrong" in them, so that, through feeling critical, he can gradually be enabled to set himself apart. If he is fortunate, he will, bit by bit, accept the pattern, seeing no inconsistency between this acceptance and his new found right to disparage and reject.

This negativism, however, often presents a new difficulty. Understanding the negativism demands a high degree of maturity from the parents, who in their turn, frequently react with insecurity to their child's rejection. As increasingly he becomes their critic, they recall nostalgically the period when *they* gave and the child received, and when adjusted growth for the child seemed in large measure to stem from the parental capacity to love and to accept. They even think back longingly to the relative ease of the latency period, when all they had to learn was how to relinquish the child. Now they find that the child has come back, not because they *invited* him, but because he wants to see what kind of adults they really are; to decide whether or not he can use them as a pattern for what he himself wants to become. In a sense they are foredoomed to failure, since at this point the child seems unable either to take them or leave them. No wonder this is a hard period, since success for the child so largely depends on the maturity level of his parents, and on their own ability to struggle through. The wonder seems rather that there really *are* adolescents who make the grade and become adults.

What Rorschach picture would seem to express the fortunate combinations of conditions which produce the adjusted adolescent? How would this picture be differentiated from one which might indicate trouble ahead?

The Rorschach graph almost writes itself, since by definition both movement and color responses are freely given. Depending on the temperament of the individual, the stress may be somewhat more on the one side or the other. But whether extroverted in interest, or primarily responsive to stimuli from within, the door to the other side should always be open, and the satisfaction derived from each, re-enforces the other. Depending also on the individual temperament, there may be somewhat more or less FM, a little m, and variations in the amount of Fc in relation to F. But in more than half the responses, the F per cent is absorbed by other determinants, the freedom and ease which this suggests being re-enforced by a good relationship between W and M. The individual is free to turn his energy into creative channels, and is ready to start on the period of young adulthood, the period when his biological needs and the socio-economic milieu transform the drive for achievement into a drive for fulfillment and integration.

I have already referred to the pit-falls which may stop the adolescent from arriving at this adjustment level. Depending on which aspects of growing up present excessive hardship, one might hypothesize one or another Rorschach configuration. Four such configurations have come into my personal experience. In each case the adolescent maladjustment appears due to a situation of long standing, which only shows itself as a maladjustment at this period.

The first of these configurations depicts that group of boys and girls who had seemingly experienced environmental disapproval as a major threat. They appear continuously to have tried to gain the security and acceptance of which they were so much in need, by rigidly following all the rules and standards which their environment imposed. They could not foresee that the result of this conformity would be personality impoverishment, nor that such impoverishment would interfere with subsequent self-realization, and with their ability to relate. This dwarfing of the personality may have started in the pre-school phase, at the very time when the child had seemed the most adjusted of children, so good and so well mannered, that he was no trouble to anyone. The present difficulty is not due to any change *in him*, just the contrary is the case.

He remained the good, obedient boy at a period when our culture reverses itself and demands a kind of upstanding resistance. The Lynds (1925, p. 131) describe the Middletown point of view about marriage as being "the thing that makes the wrongest thing in the world the rightest thing in the world." We might paraphrase this when it comes to the adolescent need for self assertion. If the submissive adolescent happens to be a boy, an additional problem confronts him (since our cultural requirement for adult masculinity is at complete variance with the "little gentlemen" concept, which he sacrificed so much to develop). In the Rorschach, the picture of personality impoverishment appears as an F per cent over 50, with no other determinant reaching any significant size. If, when one "tests the limits," the various indicators of adjusted personality growth appear, it seems safe to surmise that we deal with nothing more serious than a delayed adolescence. Lack of capacity for the use of such determinants however, seems a serious

lack, one in which psychotherapy appears indicated.

The second of these adolescent configurations is characterized by lack of a certain robustness and vivacity. Many of these boys and girls may have gone along without overt difficulty up to this period. True, they may have appeared a little infantile, more than averagely self absorbed, given to the telling of tall tales, or to other self comforting devices. They may have been good-natured followers in the latency period, ready to tag along after the others. But now their egocentricity takes on a shut-in quality. They cannot relate to their human environment, as one independent individual to another. They actually do not want independence in the least. What they seemingly want is the comfort and reassurance which they never found and without which, they are afraid. But they want it on a small child's level and so, even though they may have a loveable and appealing quality, which makes people kindly disposed to them, they remain essentially lonely and unrelated, trying to comfort themselves in various ways for a rejection which may often be more fancied than real.

The Rorschach picture of this configuration is a high FM (more than twice the amount of M). Essentially it is a withdrawn FM; (sum of color is less than 3). The fact that, in certain cases M *does* reach a value of 3 or more even though the FM continues twice as high indicates that again there is a range in the degree of disturbance, and that at least certain boys and girls in this group have what it takes to mature, once circumstances make it possible for such maturing to take place. When this good M does not appear, and when "Testing the Limits" fails to produce a receptiveness for M and for adequate color responses, this suggestion of fixation on an immature level calls, in my opinion, for psychotherapy.

The third type of adolescent adaptation with which I have worked, is one in which the observed difficulty is that of inferiority feelings. In large measure I have found these feelings not too related to the fact; many of these children, for instance, have a sense of intellectual inadequacy, in spite of the fact that they have average, or better than average intelligence. It seemed therefore that these inadequacy feelings derived from something else; that, in fact, they represented a displacement of negative affect, from the environment onto the self. Seemingly they experience their revolt, and the ensuing critical attitude toward their parents, as something essentially blameworthy and guilty.

The Rorschach characteristic of this adaptation is a high m column. The other determinants vary, with some records showing both M and FM, although greatly depressed by the amount of m. Sum of color also varies, sometimes plentiful in amount, even though the suggestions of disturbance which accompany the use of color makes it clear that the child must sacrifice to maintain the relationship.

Again the variations suggest that we would abuse the cause of preventive mental hygiene if we make an overall inference that psychological intervention is called for. But when m appears without adequate M and FM, along with a paucity of color responses, the degree of discomfort and the strong inversion of hostility would seem to suggest an almost unbearable amount of insecurity.

The fourth of these adolescent

adaptations is one in which resistance is the primary factor. The boys and girls in this group might be described as in a stage of "adolescent rebellion." This seems normal and healthy. What is not so healthy is the fact that they are withdrawn in their resistance, venting it not directly, but in a kind of sit-down strike which, unless it is outgrown, will preclude participation in the life and activities around them. They share with the adolescents in the other groups described, some feeling of insecurity, associated, it would seem, with experiences which may range from rejection to something which is merely less than the all-out acceptance they were seeking. In their case these insecure feelings were over-compensated by a "see if I care" attitude, a whistling in the dark which, while it indicates ego strength, indicates also a pathetic loneliness.

The Rorschach characteristic of this group is a shut-in M (sum of color being less than 3). Sometimes FM is present; sometimes it has been repressed, to a point where a high degree of sublimation is suggested. As in the three previous configurations, "Testing The Limits," and the presence or absence of other determinants, would indicate when psychotherapy is needed. Capacity for some FM, for Fc and for adequate use of color, would seem to indicate that what is needed is merely a more permissive and understanding environment. Absence of these determinants would again seem to call for psychotherapy.

Young Adulthood

The shift from adolescence to the young adult period seems to me to demand a change in adaptation which in some respects is similar to that required of the child in going from latency to adolescence. The swing itself goes in the reverse direction; whereas the anticipated change from latency to adolescence is from marked extroversion to a focus on inner values and ego needs, here the pendulum swings back to a new and intensified necessity for placing relationships and work achievement before all else. This is the period in which thoughts turn predominantly to career and to marriage. The "normal stress" at this time arises from our cultural demand that the youth now prove himself, that he emerge from his protected environment and take on the responsibilities of the adult, with all the new adaptations implicit in these demands.

As was the case in the periods we have just considered, the likelihood that he will satisfactorily fulfill these bio-cultural requirements depends, in large measure, on how successfully he adjusted in the earlier periods, particularly in early childhood and latency. Certain of the gains made in these two periods stand him in good stead now. The stress often felt at this time seems to me due to the conflicts growing out of the new attitudes and adaptations established in adolescence, which, must, (as with the change from latency to adolescence) be temporarily laid aside, stored for further use when nature and culture will permit. I cannot resist saying, in passing, that it seems to me that the fact that at two periods in our lives the culture requires that the individual defer the right to capitalize on his gains, and that he return to seemingly outgrown values and attitudes, is a phenomenon which requires considerably more recognition than we have given it.

Erikson describes attitudes to-

wards work developed in the latency period and carried further in young adulthood, which seem to me in point here . . . I quote: "with the oncoming latency period the normally advanced child learns to win recognition by producing things . . . He becomes ready to apply himself to given skills and tasks, he develops industry; he adjusts himself to the inorganic laws of the tool world.

"To bring a productive situation to completion is an aim which gradually supercedes the wishes of his autonomous organism.

"His danger lies in a sense of inadequacy. If he despairs of his status among his tool partners, his ego boundaries suffer, and he abandons hope for the ability to identify early with others who apply themselves to the same general section of the tool world. . . . It is at this point that wider society becomes significant in its way of admitting the child to an understanding of meaningful roles in its total economy. Many a child's development is disrupted when family life may not have prepared him for school life, or when school life may fail to sustain the promises of earlier stages." (Erikson, 1950, p. 227.)

The integration which develops through adjusted adolescence Erikson describes as follows: "It is only as young people emerge from their identity struggles that their ego can master the 6th stage, that of intimacy. . . . They must now be able to face the fear of ego loss in situations which call for self-abandon; in orgasms and sexual unions, in close friendships and in physical combat . . . The avoidance of such experiences because of a fear of ego loss may lead to a deep sense of isolation and consequent self-absorption." (Erikson, 1950, p. 229.)

This quotation from Erikson illustrates my previous point, that the adjusted self-absorption of adolescence must, if continued, become the maladjusted adaptation of young adulthood. But the stress inherent in young adulthood arises from more than the need to turn psychic energy outward in a work direction. The second aspect (intimacy) pointed out by Erikson creates a second stress. The quality of this intimacy is entirely different from that of earlier relationships, both of family and of age group or "gang." And yet, more mature relationships can clearly develop as a later blooming from these early growths. This increased maturity, in turn, requires in the words of Erikson that the "ego has learned to integrate childhood identifications with the vicissitudes of the libido; the aptitudes developed out of endowment, and the opportunities offered in social roles." (Erikson, 1950, p. 228.)

If the young adult is not able simultaneously to renounce his adolescent self absorption, to turn his energies toward achieving, and to establish significant relationships of an entirely new kind, fixations or regressions again appear inevitable.

The hypothetical "adjusted Rorschach" of this sixth period should reflect these complex requirements. Variations are, of course, to be expected, but less, I think, than in adolescence. In considering the drive for achievement, we would premise a relationship between W and M which is overweighted on the W side. The young adult in our culture (particularly the young male) is inclined to feel that he must "give all he has, and something in addition" in his efforts to establish himself in his career. However, as a safeguard for the period which lies beyond, (when, al-

beit on a higher level than adolescence, he will again focus his attention on self-needs), it is to be hoped that the reduced M does not mean an actual loss, and that M capacity in "Testing the Limits" will indicate that the ability merely lies dormant. Free acceptance of drives and impulses suggests that there will be a higher FM than in adolescence. But particularly would the color side of the graph come into prominence. For certain individuals the wish to relate is accompanied by some strain, as indicated in a forced use of color. But if CF accompanies the FC, the Rorschach indication of capacity to feel deeply and to relate strongly is present.

Rorschach "danger signs" as I see them might be listed as follows: 1. sum of color less than 3; 2. evasive or forced use of color (in a record with an adequate amount of color); 3. Fc less than ¼ total F; 4. W to M overweighted on the M side; 5. M without adequate FM.

Maturity

It has already been pointed out that with the advent of the period of maturity, the time has approached when some withdrawal of affect from the outside world, and a renewed concern with ones self and one's value system is expected. If things have gone well, the individual has made his way and raised his family.

If he has not done these things, his "success" as our culture defines it, is at best, of a modified kind. In either case, he must now change his stress, and find new foci for energy output. Otherwise frustration is inevitable, and a sense of rejection assured. The time has come when the individual must take stock, not alone of his assets in the outside world, but in addition, of what he, (as an individual) has, with which to make life meaningful. Erikson sets up the dichotomy of generativity versus stagnation, to characterize what takes place at this time. "Generativity is primarily the interest in establishing and guiding the next generation, or whatever in a given case may become the absorbing object of a parental kind of responsibility. When this enrichment fails, a regression to an obsessive need for pseudo-intimacy takes place, often with a pervading sense of individual stagnation and interpersonal impoverishment." (Erikson, 1950, p. 231.)

The mature adult then is neither concerned with conquest, as in young adulthood, nor with ego identification, as in adolescence. In adjusted maturity the "self" has been enlarged to include those other selves or objects toward which one has assumed parental responsibility. When such a one takes stock of his enlarged self, he is entitled to his minute of humbly understanding how the Creator felt when on the last day of creation "He surveyed the work that He had done; and behold, it was good."

The hypothetical Rorschach of the seventh stage is pleasant to think about. It seems to me that the characterizing element consists in the pervasive sense of well-being, expressed in lack of strain with regard to both color and shading, and in use of well seen, somewhat flexor M's. FM will have decreased, and so will W, but both are present, since an "at homeness" with self and a wish to achieve in appropriate ways, are an integral part of adjusted maturity.

It is sad to think how seldom this happy Rorschach graph is seen, but it points to a possible extension of

our use of this instrument in preventive mental hygiene.

Many records of pseudo-successful young adults contain a k column. These, we would feel, are people who are "escaping into work;" using it, as a way of structuralizing anxiety, in addition to its more usual and appropriate uses. We, as psychologist, cannot but recognize that such individuals are headed for difficulty, should the opportunity to escape into work be taken from them. Ought we to not use that knowledge to seek to prevent such difficulties from taking place? Another danger sign may be picked up in an F column of more than 50%. In this case the potential anxiety is not displaced into the stress on work and achievement. The individual is simply failing to develop those resources on which fulfillment in the next period depends. (His Rorschach shows the individual stagnation and interpersonal impoverishment, with the predictable obsessive need for pseudo intimacy, of which Erikson speaks.) In certain cases nothing can be done about it because this kind of F impoverishment is so deep-seated, that only if it had been recognized earlier could some growth have been possible. In other cases, "Testing the Limits" additions may give encouragement to the hope that it is not yet too late.

Old Age

The last period Erikson (1950, p. 231) calls "Ego Integrity versus Despair." It covers the period beyond the reaches of even our phantasy picture of an enlarged preventive mental hygiene program. For better or worse, things *are* as they are. Supportive therapy may be in order; deeper therapy may, for a certain few, change the situation; but even the psychologist of the future can no longer "prevent" at this point. Yet, in the interest of closure, I am tempted to include this period. At this point I would like to leave the dichotomy and think in terms of a fulfilled end to the journey, this end being ego integrity. Erikson describes this as follows: "It is the Ego's accrued assurance of its proclivity for order and meaning. It is a post-narcissistic love of the human ego—not of the self—as an experience which conveys some world order and spiritual sense, no matter how dearly paid for. It is the acceptance of one's one and only life cycle as something that had to be, and that, by necessity, permitted of no substitutions. Before this final solution, death loses its sting." (Erikson, 1950, p. 232.)

One needs a kind of alchemist's touch to transmute the offtimes drab Rorschach of this eighth period into objectively recognizable gold. Possibly it is enough if the gold is subjectively experienced, even though to the observing psychologist there is only a reduced number of responses, a form level which is not as high as on earlier Rorschachs, an M which (like sum of color) has decreased in amount when compared with the previous Rorschach, and a gentle, pastel CF column which is somewhat in excess of FC. Possibly the Rorschach itself, which so often seems to me to have a wisdom beyond that of its interpreter, in this anthropromorphic way feels that it is better so. According to Erikson, "Each individual, to become a mature adult, must, to a sufficient degree, develop all the ego qualities mentioned, so that a wise Indian, a true gentleman, and a mature peasant, share and recognize in one another the final stage of integrity."

(Erikson, 1950, p. 232.) Even *I* recognize that these happy few rise above the ability of the Rorschach to symbolize their ascent.

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BRIEF REPORTS

An Analysis of the Effect of the Test Situation Upon the Rorschach Record: Formal Scoring Characteristics [1]

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INTRODUCTION

The question as to the extent to which a Rorschach record is influenced by the situation in which the test is taken, is one which has long occupied Rorschach theorists. Most proponents of the technique admit that results obtained are influenced by situational factors, but they differ greatly in estimates of the degree of such influence (Beck, 1937; Klopfer, 1938-39; Piatrowski, 1942; Report, 1941; Rorschach, 1942; Vernon, 1935-36). Objective attempts to evaluate the effect of temporary influences on test performance have largely been concerned with comparing the subject's record taken under "normal conditions" with his record taken when an artificial variable was introduced. The list of such variables include drugs, such as sodium amytal (Kelley, 1941; Wilkins, 1947), mescaline (Gutman, 1936; Wertham, 1932), morphine (Brown, 1943), and alcohol (Kelley, 1941); oxygen deprivation (Barach, 1940; Hertzman, 1942); hypnosis (Bergman, 1947; Levine, 1943; Sarbin, 1939); experimental set (Coffin, 1941; Fosberg, 1941-42a; Fosberg, 1941-42b; Hutt, 1950; Lord, 1950), and social influence (Kimble, 1945). These studies all report shifts in various Rorschach factors, but deal primarily with conditions which would not be encountered in the practical experience of the clinical psychologist.

The present study is an attempt to evaluate the effects of temporary situational factors on Rorschach performance, using the method of group-comparison, and to relate any observed differences to the characteristics of the test situation.

SUBJECTS AND PROCEDURE [2]

Since the Rorschach is widely used diagnostically in hospital settings, it was decided to contrast records taken in a period of stress associated with hospitalization with those taken on matched subjects in the absence of such stress.[3] In order to avoid any possible interactions between reaction to stress and age or intelligence, the age of subjects was limited to 18-45, and intelligence, as determined by the verbal scale of the Wechsler-Bellevue, to average or above (i.e., IQ 90 or above). Patients on ward service only were studied, to hold constant any hospital procedures which might influence attitude toward the treatment received.

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[1] Adapted from a dissertion submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Psychology, Yale University.

[2] For assistance in securing subjects, the author is indebted to Dr. Herbert Thoms, Professor of Obstetrics and Gynecology, Yale University School of Medicine; and to Dr. Roy C. Fugal and Miss Matilda Steiner, Department of Personnel, the General Electric Company (Bridgeport plant).

[3] Preliminary study using short interval test-retest on hospitalized subjects indicated that spuriously high reliabilities were obtained due to a memory factor, and the method of group comparison was substituted.

In selecting an experimental situation, it was desired to find an acute temporary stress. Two situations were selected in which the patients were assumed to be experiencing such stress: the day prior to discharge of primiparous obstetrical patients, and the day prior to gynecological surgery. It was demonstrated that no statistically significant differences existed between Rorschachs from these two types of patients (Potter, 1948). This hospital group was matched in age, sex, intelligence, and socio-economic status with subjects selected as being in an everyday life situation. Clerical workers from a large local factory were assumed to meet this requirement. The composition of the subject groups is given in Table I. No significant differences were found between the groups in age or intelligence.

TABLE I—Composition of Subject Groups

Group—	Number	Average Age	σ	Average IQ	σ
Hospital subjects	34	28	7.51	102	10.00
Clerical subjects	33	26	5.82	104	10.80

The Rorschach test was administered according to the technique outlined by Klopfer and Kelley (1942). The records were scored according to Klopfer's system, with the exception that form level of responses was scored according to the norms established by Beck (1947). As a check on the reliability of the author's scoring, twenty records were selected at random from the entire group of protocols and ten each were submitted to two independent Rorschach workers.[4] The percentage of agreement of each with the author for the four categories of location, determinant, popularity and content ranged from .89 to .97. This degree of agreement was probably due in part to the brevity and simplicity of the records.

The surgical patients were given the Rorschach and verbal scale of the Wechsler-Bellevue following ward rounds on the afternoon of the day preceding surgery, as, at this time, the patient was given confirmation by the surgeons of the intended procedure.[5] The obstetrical patients were tested following ward-rounds of the day prior to discharge. The clerical subjects were tested at various times throughout the working day. The examiner introduced herself to all subjects as a doctor who was conducting a research project on attitudes and interests of various groups of women, and asked their cooperation in taking a test which would give data which might be used as a normal basis for comparison. All subjects appeared cooperative.

RESULTS

In the statistical analysis of results, quantitative comparison was made of the incidence of each single Rorschach scoring category; of the incidence of grouped categories and ratios, derived from established Rorschach usage and from precedents in the literature (Fosberg, 1941-42; Kelley, 1941; Muench, 1947); and of pattern of

[4] Dr. Edith S. Lisansky and Dr. Seymour B. Sarason.

[5] Among the surgery patients, all cases of suspected malignancy and cases where dysfunction might be of psychogenic rather than physical origin were excluded.

responses as expressed through the Munroe checklist of diagnostic signs (1945). In the analysis of single and grouped categories, only main responses and determinants were tabulated. Very few additional responses were given or additional determinants used, and preliminary tabulation including these showed no shifts in significance from that obtained using only main responses and determinants.

In order to compare records which differed in total number of responses, the percentage incidence of each scoring category, rather than the absolute number of responses was used.[6] Comparison of ratios was made on the basis of absolute number of responses. As it has been found that many of the Rorschach scoring categories do not assume a normal distribution (Cronbach, 1949; Hertz, 1941), a fact which was confirmed by inspection of the present data, Chi-square was used as the most appropriate statistical technique. Yates' correction was applied. In analysis of the ratios, tri-partite Chi-square was computed, dividing the cases into those where the first element of the ratio was greater than, equal to, or less than the second.

Since it was desired to compare the constellation of factors presented in each record, the most objective method of analysis was to evaluate the degree of adjustment by checking each record against interpretive signs used in clinical diagnosis. It was decided to use the detailed and comprehensive list shown by Munroe (1945) to be effective in predicting adjustment.[7] Munroe's check list has the advantages that it yields a qualitative as well as quantitative analysis, as it takes into account additional responses and determinants, and that the various signs are weighted according to the total number of responses in a record. The twenty-eight signs listed by Munroe were modified to the extent of excluding total response time, as this was difficult to record accurately under the hospital testing conditions; quality of succession, as many records were so brief that there was no succession for the individual cards; and originality, as it was felt this judgment was too dependent on subjective factors.

In Table II is shown the statistical analysis of results. Under the Munroe diagnostic signs are included only those individual signs shown to differentiate significantly between the two groups. It will be seen that of the total of 65 comparisons made, 21 differences statistically significant at or below the .05 confidence level occurred between the hospital and clerical groups. This incidence is well above chance expectation of three such differences in a series of comparisons of this length.

The direction of the differences is as follows: The clerical group gave significantly more responses, and used significantly more determinants and content categories. However, the responses of the hospital group were of poorer quality,

[6] This approach has been criticized (Cronbach, 1949) for failing to take into account possible correlations between number of responses and the incidence in the various scoring categories. However, no more feasible method of handling such data is known to the author.

[7] The "neurotic signs" proposed by Harrower (1942) and Miale and Harrower 1940-41) have been criticized as not distinguishing between various clinical groups or between psychoneurotics and normals (Ross 1941, 1942-43), and the Basic Rorschach Score proposed by Buhler, Buhler, and Lefever (1949) was inapplicable because of the author's more non-directive method of inquiry.

TABLE II—Analysis of Test Results

Scoring Factor	X^2	P
Total number of responses	7.23	.01′
Location (W%, D%, d%, Dd+S%)*		
Number of determinants used	13.58	.001′
Determinant (M%, FM%, m%, k%, K%, FK%, F%, FK+F+Fc%, c%, C′%, CF%, C%)*		
Fc%	5.64	.02′
Fc+c%	10.24	.001′
FC%	7.23	.01′
FC+CF+C%	10.24	.001′
Number of content categories used	10.60	.001′
Content (H%, A%)*		
Anatomy%	5.23	.05
Object%	4.92	.05
Miscellaneous (Average reaction time, Popular%, Rejections)*		
Minus responses (Beck)	8.76	.01
Ratios (RT shading: RT color; W:M: H+A:Hd+Ad; M:Sum C; FM+m:Fc+c+C′)*		
Sum C	3.90	.05′
%R to cards 8, 9, 10	4.85	.05′
FC: CF+C	4.19	.05
Total Munroe Diagnostic Signs	12.31	.001
No. 6: At plus Sex	7.35	.01
No. 9: Form level	6.59	.02
No. 10: Shading shock	3.86	.05
No. 19: Color shock	12.00	.001
No. 20: FC<2	5.47	.02′
No. 23: Color score	10.21	.001′
No. 24: Color-movement ratio	10.27	.001

*No statistically significant differences obtained.
′ Indicates higher frequency in the clerical group.

as is indicated by the significantly higher incidence of minus responses. In the area of determinants, the differences indicate the presence of a higher percentage of each scoring category in the records of the clerical group. In content, the hospital group gave a higher percentage of anatomy and object responses. The significant ratio comparisons show a larger Sum C and percent of responses to cards 8, 9, and 10 in the clerical group; in the ratio FC:CF+C, a greater number of the clerical group showed an excess of FC over CF + C. Of those diagnostic signs which distinguished between the groups, the clerical group gave fewer anatomy and sex responses, fewer poor form responses, and showed less shading and color shock; they gave more FC responses, had a higher color score and a more balance color-movement ratio. In the weighted total of signs, the clerical group showed a significantly lower incidence. The summarizing of these differences in the total Munroe score emphasizes the fact that the hospital group appears relatively more maladjusted than the clerical group.

Qualitative analysis of the content of the protocols, with particular reference to anatomy and human movement responses, was

made (Potter, 1948), which will be reported at greater length in a subsequent communication. Suggestive differences were found in that the anatomy responses of the hospital group related directly in most instances to the patient's hospital experience, while those of the clerical group were more diverse. In human movement responses, the hospital group tended to see more negatively toned activity and affectively characterized individuals.

DISCUSSION

In evaluating the constellation of significant differences obtained between the hospital and clerical subjects, certain definite reactions in the former group to the stress situation are suggested. It is apparent from the significantly fewer responses given by the hospital group and their use of significantly fewer scoring determinants and content categories, that there was greater constriction of response in that group. Their emotional constriction is indicated in the significantly fewer texture and color responses given, and their poorer reality evaluation by the significant incidence of minus form responses within the group. Conversely, their self-preoccupation is reflected in the content, through the increased number of anatomy and sex responses, and the relevance of these to their hospital experience.

There are few similar studies reported in the literature by which to evaluate the comparability of the present results. In a study which approximated a contrast in "natural" conditions, Kimble (1945) tested fourteen college students in a social setting (i.e., college cafeteria), and under standard testing conditions. He found a fairly constant change in the forms of color responses in the social condition that resulted in a statistically significent difference in Sum C. Lord (1950), contrasting the effect of "positive administration" with "negative administration" found that the former situation elicited more responses, a "greater display of intellectual activity" and of "creative activity," "less stereotypy of thinking," and "evidence of greater ease in relating to other human beings." In addition, the negative administration elicited "evidence of withdrawal from emotional stimuli, as measured by a decrease in number of responses to the all-color cards." Ross (1940-41) and Maller-Schoenberger and Silberpfenning (1937-38) corroborate the present results in finding a higher percentage of anatomical responses and anatomical preoccupation among hospitalized patients, but the most pertinent comments on the effects of hospitalization have been made by Bleuler:

> If I administered the test to my patients on a hospital medical service, I got different results than when I administered the test to people who were healthy, or those who were in a psychiatric institution. The environment of a hospital creates a set to give interpretations from the field of anatomy and pathology. Not only insofar as content is concerned are the test results influenced by the environment, but also the individual Rorschach determinants, among them the M:Sum C ratio are affected (1934, p. 46).

CONCLUSIONS

It is apparent, that in dealing with the type of results presented by Kimble, Lord, Bleuler, and the author, one is faced with the question of the practical as well as experimental validity of the Rorschach test. On the one hand, the number of statistically significant differences obtained between the present groups shows that a Rorschach protocol is affected by the test situation. On the other hand,

the pattern of differences shown by the hospital group seems consistent with personality adjustment in the face of severe personal threat. Generalizing from these results, it would appear that evaluation of the predictive value of a Rorschach record must take the testing situation into account.[8] In determining the extent to which the Rorschach is affected by the testing situation, one is faced with determining whether certain aspects of the test are more sensitive than others to concomitant shifts in the subject's behavior. From what little data is available, it would appear that when the subject is in a stress situation, the color and texture determinants and content are more susceptible than other aspects of his record to such influence.

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The Lowenfeld Mosaic Test

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The Lowenfeld Mosaic Test was originally designed in Europe in the period between the two world wars as a means of exploring a possible relationship between national cultures and folk designs. The first selection of shapes arose out of a study of the main geometrical designs used in the East and South East European folk-embroidery. The choice of colors came in part from this same source and in part from Mary Boole's work on color.

Although the original setting of the test was a social-anthropological one, experiments with individuals belonging to the same culture-group but differing in age, sex, intelligence, education, temperament, emotional stability, professional types and so forth, quickly brought to light the surprising possibilities that lie in the test and led to the exploration of its value in several spheres, in particular: 1) for clinical differentiation between normal and neurotic individuals and indication of the presence of neurosis in patients seen for the first time; 2) for estimating the progress made in psychotherapeutic treatment; 3) for the assessment of individual traits in normal people; 4) for the diagnosis of mental deficiency.

As the test was originally developed almost exclusively in the spheres of education and psychotherapy, it was not until a later stage that any evaluation of it was attempted with psychotics—a fact which probably accounts for the divergent lines of development which the use of the test has taken in the U. S., Britain, and Europe.

The first important landmark in the history of the test after the war came in 1948. In that year an International Conference[1] took place at the Institute of Child Psychology, a week before the International Congress on Mental Health. This was attended by members from eleven countries. The Lowenfeld Mosaic Test was one of the topics considered at this Conference, and members from France, Sweden, Switzerland and many centers in Britain brought collections of mosaics, or (as in the case of Belgium) extensive notes about them. This made it possible for the first time to compare the patterns collected in different nations and by different workers from comparable groups of subjects. These collections were displayed throughout the week on the walls of the Institute of Child Psychology and formed part of the exhibitions of the Mental Health Congress.

This exhibition provided the first opportunity in Britain for the display of a large collection of patterns from psychotic patients. From examination of these and arising out of the report on his collection made by Dr. H. Ellenberger of Switzerland, it became clear that the test is responded to even by deteriorated schizophrenic patients and that certain features are almost pathognomic of the presence of organic disease in psychotic pa-

[1] The Report on this Conference, entitled "On the Psychotherapy of Children" may be obtained from The Institute of Child Psychology, 6 Pembridge Villas, London, W. 11, England.

tients, a conclusion which supports Wertham's findings.

The next stage in the test's development came during a visit by the author to the U.S. in the spring of 1950. Dr. Stafford, Head of the Psychology Department of the Catholic University of America, organized a workshop on the Lowenfeld Mosaic Test at the University in Washington, D. C.

As the time available at the workshop was quite inadequate for discussion of all points that arose, a Committee was formed to be responsible for the development of work on the test in the U. S.

INSTRUCTIONS FOR THE LOWENFELD MOSAIC TEST

The examiner should place the opened box on the table and say: *"Here is a box of colored pieces of different shapes and sizes. I'll show them to you. There are five different shapes."* (Pick up one of each shape, each of a different color except white and lay them on the table, replacing them after each demonstration.) *"Each of these shapes is in five colors in this box; red, blue, yellow, black, green and white also."* (Point out the various colors in the box.)

"Now, I want you to do something with the pieces in this box on this tray." (Place the tray in which a closely fitting piece of paper has been laid in front of the individual to be tested.) *"You may use as few or as many pieces as you like and whatever of the shapes and colors you want. You may make anything you want to and take whatever time you like. Tell me when you are finished. Would you like me to say this again?"*

If the instructions are not understood, they may be repeated in whole or in part. If specific questions regarding procedure are raised which are not covered in the main instructions, the answer should be given that there is complete freedom in the matter. When the design is finished, the examiner should discuss with the subject the significance the productions have to him, determining for every design whether it is representational, and if so, the object or idea represented and whether or not this idea was present in his mind when he began. This should be done without the use of leading questions and in a manner appropriate to the individual being tested. A time record should be kept from the moment that instructions are completed until the subject indicates that his design is finished. Careful note should also be taken of the order in which the pieces are used.

Time. The sentence in the instructions concerning the time which may be taken to complete the test, should be adjusted to the circumstances in which the test is made. Twenty minutes has been found to be a useful routine period but in therapeutic use or with obsessional patients or with some creative individuals a much longer time is necessary for them to achieve a completed design.

Arrangements of pieces in box. For each shape the colors are arranged from left to right or from bottom to top as follows: all whites, all greens, all blacks, all yellows, all blues, all reds. There should be eight of each color of diamonds and isosceles triangles, four of squares, six of equilateral triangles, and twelve of scalenes. In the standard box of four hundred and fifty-six pieces, the arrangement of each half of the box should be identical. The small box should be presented with the direction of the pieces as in the standard box.

Size and shape of the TRAY. The Mosaic Test is used with a standard tray, 12⅜" by 10¼" (31½ c.m. by 26 c.m.) surrounded by a narrow rim. Paper for use with the test should be the exact size of the tray and white in color. (This decision has been arrived at in spite of the disadvantage that the white pieces do not show up well on a white background owing to the impossibility otherwise of securing a standard colored paper.)

Supplementary Instructions. The instructions given above should be used in all cases in order to assure standard conditions. Inasmuch as the test is applied to individuals of wide mental and chronological ages and types of mental organization and is used for varied purposes, it is sometimes necessary to create a preparatory atmosphere for the performance of the test, as is often the case with objective tests and projective techniques. For example, the relationship between the examiner and the individual to be tested might be such that the following introduction would be useful: "What I am going to show you was designed by someone who is very interested in colors and shapes and what people like to do with them. We often show it to people we are working with to see what they think of it," or, in the case of hesitant adults, "There is no right or wrong way of doing this and it is not a test of intelligence." Care should be taken that any preparation should be such that the efforts put into the design will be conditioned basically by the subject's interest in the materials, not by inducement or coercion of the examiner. Likewise the observation of performance and remarks made during the test, which are often very important for interpretation, should be done in a manner not to interfere with the subject's freedom of operation.

Record of Designs. The customary method of recording designs is to trace round each piece of mosaic with a sharp pencil, recording the initial letter of the color within the space traced. In the English language "B" stands for "Blue", "Bk" for "Black". The color of the pieces is later filled in with crayons or paint. When color photography becomes inexpensively available, immediate color photography would be the recording method of choice.

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Preferences for Rorschach Cards[1]

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The preferences for Rorschach cards frequently seem to give emotional content which does not appear during the administration of the individual Rorschach. It was felt, therefore, that a thorough study of the preferences might reveal some information which would be useful for diagnosis, prognosis, or screening.

SUBJECTS

The subjects were 200 patients at the V.A. Mental Hygiene Clinic at Ft. Snelling, Minnesota, 28 patients at St. Elizabeths Hospital, Washington, D. C. and 42 non-patients. All were adult, white males. The clinic patients were veterans, most of whom had been enlisted men in the Army or Navy. They were new admissions referred for more or less routine diagnostic examination. Most of them were diagnosed psychoneurotic. The 28 patients at St. Elizabeths were also relatively new admissions. Most of them were diagnosed dementia praecox, catatonic or paranoid type. The non-patients were all members of either Army or Navy reserve units; a little more than half were commissioned officers. So far as known, none had been diagnosed as mentally ill.

METHOD

For each subject, all the Rorschach cards were spread out in front of him. He was asked to choose the card he *Liked Best* and the card he *Liked Least*. After he had made both choices, he was asked to give his reasons for each choice. The mental hygiene clinic patients were asked to make their choices immediately after they were given an individual Rorschach. The hospital patients had recently been given an individual Rorschach and all said they remembered the cards. The non-patients were not given a Rorschach and were not familiar with the cards.

RESULTS

An analysis of the data on the 200 mental hygiene clinic patients will be given first. Then a briefer analysis will be presented of the data on hospitalized mental patients and non-patients. Following the quantitative analysis of the preferences, a brief discussion will be given of the qualitative aspects of the preferences.

Mental Hygiene Clinic Patients.

The first step in the analysis of the data on the 200 clinic patients was a simple tabulation of the choices for Liked Best and Liked

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[2] The author wishes to thank: (1) The V. A. Clinical Psychology Trainees, especially Donald Peterson and Albert Rosen, who helped collect and analyze the data on the Mental Hygiene Clinic patients; (2) Dr. Winfred Overholser, Superintendent, and his staff who made the hospital patients available to her while on naval training duty at St. Elizabeths Hospital, Washington, D. C.; and (3) LCDR Joseph A. Wise, C.O. of Naval Reserve Research Unit 9-6 and members of the army and navy reserve units who served as subjects.

TABLE I—Rank Order of Preferences for Rorschach Cards Given by 200 Mental Hygiene Clinic Patients, 27 Hospital Patients and 42 Non-Patients

	Liked Best			Liked Least		
Rank	MHC	Hosp.	Non.	MHC	Hosp.	Non.
1	X	X	X	X	V	VII
2	VIII	IX	IX	IV	IV, VII	IV
3	II	VIII	III	VII		
4	IX	III, VI	VIII	VI	III	I, II, III
5	VII		VI	V	II	
6	III	I, V	I, II	II	I	V
7	I, V			I	VI, X	VI
8				IX		X
9	VI	II, IV, VII	IV, V, VII	III	VIII, IX	VIII, IX
10	IV			VIII		

TABLE II—Percent of Preferences for Rorschach Cards Given by 200 Mental Hygiene Clinic Patients, 27 Hospital Patients and 42 Non-Patients

	Per Cent Liked Best			Per Cent Liked Least		
Card	MHC	Hosp.	Non.	MHC	Hosp.	Non.
I	5.5	3.7	2.4	7.5	7.4	11.9
II	10.5	0	2.4	8.0	11.1	11.9
III	6.5	7.4	11.9	6.0	14.8	11.9
IV	2.0	0	0	16.5	18.5	14.3
V	5.5	3.7	0	8.5	22.5	9.5
VI	4.0	7.4	4.8	9.0	3.7	7.1
VII	7.5	0	0	15.5	18.5	28.6
VIII	19.0	18.5	9.5	3.5	0	0
IX	9.5	22.5	26.1	7.0	0	0
X	30.0	37.0	42.9	18.5	3.7	4.8

Least, for each of the ten Rorschach cards. The rank order of choices for each card (Table I) and the percentage of choices (Table II) were then determined. Cards X and VIII were chosen most frequently as Liked Best. Of these mental hygiene clinic patients, 30% (60 patients) chose Card X and 19% (38 patients) chose Card VIII as Liked Best. Thus approximately half preferred one of these two colored cards. Cards IV and VI were rarely chosen as Liked Best. We had expected they would also be most frequently chosen as Liked Least. Actually, however, Card X was chosen as Liked Least more frequently than any other card by this group: 18.5% chose it as Liked Least, while 16.5% chose Card IV as Liked Least, and only 9% chose Card VI as Liked Least (Table II). The differences among the cards Liked Least are not as great as among the cards Liked Best, although the Chi-squares for both the preferences, Best and Least, are significant at the .1% level. There is some consistency between the choices of Liked Best and Liked Least. Card IV is seldom chosen as Liked Best and frequently chosen as Liked Least. Card VIII is frequently chosen as Liked Best and rarely chosen as Liked Least. There is one outstanding discrepancy, however: Card X is chosen most frequently by this neurotic group both as Liked Best and Liked Least. As we shall see later, this was not true for the psychotic or normal groups. Some explana-

tion for this difficulty with Card X will be found when we analyze the reasons for the choices.

As mentioned previously, each subject was asked to give his reasons for his preferences. These were classified into seven categories as follows: Liked Best because: (1) Easy, (2) Color, (3) Content, (4) Pleasant, (5) Don't know, (6) Achromatic color, and (7) Compactness. Liked Least because: (1) Hard, (2) Color, (3) Content, (4) Unpleasant, (5) Don't know, (6) Achromatic color, and (7) Scattered. Some of the classifications are quite arbitrary and there is considerable overlapping. Overlapping is especially apparent in Reasons 3 and 4, the content and emotional reaction. In some cases, the patients gave reasons such as: "Bat, morbid," "Bloody mess," "Don't like bugs, they bother me." In these cases, they were listed as giving two reasons, Content and Unpleasant. If, however, they said merely, "Weird and scary" or "gruesome," the reason was classified only under Unpleasant although the unpleasant emotional reaction may have been due to specific content that was not verbalized. No attempt was made to weight the reasons given.

The number of times each reason was given was tabulated for each card. The percentage of the patients giving each reason was also figured for every card (Table III). The reasons for the choices vary considerably with the card. For instance, all 11 patients who chose Card V as Liked Best did so because the form of the blot made it easiest to see something. Forty-seven (78%) of the 60 patients who chose Card X as Liked Best gave as one reason that they liked the colors. Over half of those patients who chose Card VIII as Liked Best also gave as one reason that they liked the colors. However, a slightly larger number said they preferred Card VIII because it was easiest to see something. On the other hand, only 20 (33%) of the 60 who chose Card X as Liked Best, gave as a reason that it was easy to see something. Moreover, 21 of the 37 (57%) who chose Card X as the one Liked Least gave as a reason that it was hard to see anything. Why should Card X seem so difficult to the neurotic when it obviously has so many possibilities for the normal subject? A clue to this is found in our Reason 7, too Scattered. This reason was given 11 times by patients

TABLE III—Percent of Reasons for Choices of Mental Hygiene Clinic Patients for Rorschach Cards

	Reasons Liked Best								Reasons Liked Least							
Card	N	1	2	3	4	5	6	7	N	1	2	3	4	5	6	7
I	11	64	0	27	18	9	9	0	15	40	0	40	53	17	27	0
II	21	33	0	52	33	0	0	0	16	44	6	44	69	6	0	0
III	13	77	15	15	15	0	0	0	12	67	8	17	17	8	0	8
IV	4	100	0	25	25	0	0	0	33	39	0	45	61	0	21	0
V	11	100	0	0	0	0	0	0	17	35	0	47	35	6	6	0
VI	8	63	0	38	25	0	0	0	18	61	0	17	6	28	6	0
VII	15	27	0	47	53	0	0	0	31	74	0	10	10	10	16	6
VIII	38	61	53	16	8	0	0	0	7	29	14	43	43	0	0	0
IX	19	21	63	21	42	0	0	11	14	64	14	21	29	0	0	0
X	60	33	78	17	17	0	0	0	37	57	8	16	27	5	0	30

Reasons Best: (1) Easy, (2) Color, (3) Content, (4) Pleasant, (5) Don't know, (6) Achromatic color, (7) Compact.

Reasons Least: (1) Hard, (2) Color, (3) Content, (4) Unpleasant, (5) Don't know, (6) Achromatic color, (7) Scattered.

choosing this card as Liked Least although rarely given as a reason for choosing any of the other cards. The scatteredness of Card X, however, was probably also a factor for some of the other patients who found this card difficult but did not verbalize or analyze their reasons any further. The rank order of reasons for cards Liked Best by the mental hygiene clinic patients (Table IV) is: Easy, Colors, Content, Pleasant, Don't know and Compact, and Achromatic color. The rank order of the reasons for cards Liked Least by the mental hygiene clinic patients is: Hard, Unpleasant, Content, Achromatic color, Don't Know and Scattered, and Color.

As we have just seen, the mental hygiene clinic patients gave as their most frequent reasons for liking cards that they found them Easy and they liked the Color. On the other hand, they gave as their most frequent reasons for disliking cards that they found the cards Hard and the cards caused an Unpleasant emotional reaction in them. If these reasons are valid, we would expect them to be substantiated by the patients' responses to the cards during the administration of the individual Rorschach. For instance, *we would expect the patients to give more responses and more responses involving color to the cards they Liked Best than to the cards they Liked Least.* This assumption was substantiated statistically, for the Chi-squares were significant at the 1% level and .1% level respectively (Table V).

We would expect the Unpleasant emotional reactions to the cards to be revealed in some of the criteria generally considered as evidence of color or shading shock on the Rorschach. In addition to fewer responses and fewer responses using color, already shown for cards Liked Least, these include rejection of the card, increased reaction time, fewer F+ responses and more pure F responses (Table

TABLE IV—Percent and Rank of Each Reason for Rorschach Card Preferences of 200 Mental Hygiene Clinic Patients, 27 Hospital Patients and 42 Non-Patients

A. LIKED BEST

Reasons	Percent			Rank		
	MHC	Hosp.	Non.	MHC	Hosp.	Non.
1	48	22	36	1	3	2
2	41	37	74	2	2	1
3	24	44	24	3	1	3
4	22	15	19	4	4	4
5	1	19	2	5.5	5	6
6	.5	0	2	7	6.5	6
7	1	0	2	5.5	6.5	6

B. LIKED LEAST

1	53	22	48	1	2.5	1
2	4	4	7	7	6	6
3	29	44	29	3	1	2
4	34	22	26	2	2.5	3
5	7	11	0	5.5	5	7
6	9	15	24	4	4	4
7	7	0	12	5.5	7	5

Reasons Best: (1) Easy, (2) Color, (3) Content, (4) Pleasant, (5) Don't know, (6) Achromatic Color, (7) Compact.

Reasons Least: (1) Hard, (2) Color, (3) Content, (4) Unpleasant, (5) Don't know, (6 Achromatic Color, (7) Scattered.

TABLE V—Comparison of Mean Number of Responses, Color Responses, Pure Form Responses, Good Form Responses, Rejections and Reaction Time on Rorschach Cards Liked Best and Least by 200 Mental Hygiene Clinic Patients.

	Liked Best	Liked Least
Mean R*	2.66	1.94
Mean Color R**	.79	.14
Mean Pure F	1.11	1.05
Mean F+	.80	.80
No. Rejections**	7.00	30.00
Mean R.T.**	24.03	41.93

* Differences significant at 1% level of confidence.
** Differences significant at .1% level of confidence.

V). While 30 (15%) of the patients rejected the cards they Liked Least, only 7 (3.5%) rejected the cards they Liked Best. The reaction time to the cards Liked Least was decidedly greater than to the cards Liked Best. The Chi-squares for both the number of rejections and the reaction time were significant at the .1% level. No significant differences were found between the number of F+ and pure F responses on the cards Liked Best and the cards Liked Least. On the whole, however, the reasons given by the mental hygiene clinic patients for liking cards Best and Least seem to be substantiated statistically by their reactions to the cards during an individual Rorschach examination.

Since the major reason given by the mental hygiene clinic patients for liking a card Best or Least was the ease or difficulty of the card, it was felt intelligence might be a factor in the choices. As mentioned above, all mental hygiene clinic patients who chose Card V as the one Liked Best gave as their sole reason that it was easiest. When we compare the intellectual level of these patients with the rest of the group (Table VI), we

TABLE VI—Mean Wechsler-Bellevue I.Q. and Education of Mental Hygiene Clinic Patients Preferring Each Card

		BEST			
		Wechsler-Bellevue I.Q.			
Card	*N*	Total	Verbal	Perf.	*Grade*
I	11	109	110	106	11
II	21	107	106	108	11
III	13	119	120	111	13
IV	4	114	109	117	12
V	11	102	100	103	9
VI	8	117	115	117	11
VII	15	112	109	113	12
VIII	38	109	106	111	10
IX	19	116	113	116	12
X	60	112	109	112	11
Mean	....	111	109	111	11
		LEAST			
I	15	116	114	114	13
II	16	113	110	114	11
III	12	99	98	100	10
IV	33	116	114	115	12
V	17	108	105	110	11
VI	18	107	106	105	11
VII	31	111	107	112	11
VIII	7	122	121	119	13
IX	14	109	106	110	9
X	37	111	109	111	11
Mean	....	111	109	111	11

see that the mean I.Q. of 102 for those choosing Card V as Liked Best is somewhat lower than the mean I.Q. for those choosing any other card as Liked Best. The *t* score was found to be significant at the 5% level, suggesting that those patients liking Card V Best have a significantly lower mean total I.Q. (102) on the Wechsler-Bellevue than the mean I.Q. (112) of the combined population preferring the other cards. The mean education (Grade 9) for those who liked Card V Best was also lower than the mean education for any other group and considerably lower than the mean education (Grade 11), for all the mental hygiene clinic patients (Table VI).

The intellectual factor as shown in the preferences of subjects of relatively low intelligence for Card V probably accounts for the fact that Wallen (1948) found Card V more popular among his naval recruits than we found it among our mental hygiene clinic patients. He does not give the mean I.Q. for his unstable groups, but merely states that it is well within normal limits. The median education for his largest unstable group, however, was Grade 9, the same as for our group which preferred Card V. Hershenson (1949), on the other hand, found Card V the one most consistently disliked by eleventh grade boys whose education was the same as the mean for our neurotic group and whose mean I.Q. (112.67) was very close to that of our neurotic group.

Intelligence also seems to be a factor in the choice of Card III. Seventy-seven percent of the patients who chose it as the card Liked Best gave as a reason that it was Easy and sixty-seven percent of those who chose it as Liked Least gave as a reason that it was Hard (Table III). The mean I.Q. for those who liked it best was 119, the highest found for any card, and the mean I.Q. for those who liked it least was 99, the lowest for any card (Table VI). T-tests of the significance of the differences between these means and those for the combined populations choosing the other cards resulted in probability values below .05 and .01 respectively. Arbitrary choice of the highest and lowest values for comparison with all other means, however, maximizes chance factors (Cronbach, 1949). Chi-square, as an over-all test of the relationship between intelligence and card preference, could not be used since the expected frequencies in some of the cells were too low. It seems wise, therefore, to interpret these results with caution. The hypothesis that intelligence is in fact one determinant in the choice of Card III, however, is supported by other evidence. The mean education for those liking it best was Grade 13, the highest found for any card (Table VI), and it was most popular in the group containing the most officers, the non-patient group.

Hospital Patients.

Of the 28 patients examined at St. Elizabeths Hospital, most of whom had been diagnosed dementia praecox, catatonic or paranoid type, 27 were able to make some choice (Tables I and II). Of these, over 75% chose one of the three all color cards as Liked Best. Card X was most popular, as it was with the mental hygiene clinic patients. In contrast to the mental hygiene clinic patients, however, the hospitalized patients chose Card IX as Liked second Best while Card VIII took third place. None chose Cards II, IV, or VII as Liked Best although Card II had been third in popularity among the mental

hygiene clinic patients. There is more of a difference in the two groups of patients between the cards Liked Least than between the cards Liked Best. The card most frequently chosen as Liked Least was Card V, while Cards IV and VII tied for second place among cards Liked Least. Incidentally, the ranks of these three cards were identical with those for the Samoan mission high school students studied by Cook (1946). None of the hospital patients chose Card VIII or IX as Liked Best. In contrast to the clinic patients who chose Card X most frequently as Liked Least, only one hospital patient chose Card X as Liked Least.

The reasons given by the hospitalized patients for their choices are also quite different from the reasons given by the mental hygiene clinic patients (Table IV). The hospitalized patients most frequently gave specific Content as the reason for liking or disliking a card. Since most of the patients were schizophrenics, it is comprehensible that their reasons should be more concrete than those of the neurotics or normals. However, the actual experience of patients with bats, which they saw on Card V as threatening, probably could not compare with the rather frequent experience of the Samoans with the unpleasantly odoriferous and food-stealing flying fox which they saw on Card V (Cook, 1946).

Non-Patients.

The normal group, as well as both groups of patients, chose Card X as Liked Best most frequently (Tables I and II). An even larger percentage (79%) of this normal group than of the patient groups chose one of the three colored cards as Liked Best. Card IX was second choice and Cards III and VIII took third and fourth place. None of the normal group chose Cards IV, V, or VII as Liked Best. Twelve (29%) of the normal group chose Card VII as Liked Least. Wallen (1948) also found this card the most unpopular among his normal group. In a preliminary study of anxiety neurotics, we found that a larger percentage of those who improved with psychotherapy, than of those who did not improve with psychotherapy, liked Card VII least. As with the hospitalized patients none chose Cards VIII or IX as Liked Least and only two chose Card X as Liked Least.

Since such a large percentage of the normal group chose the all color cards as Liked Best, it would be expected that Color would be a popular reason for the choice. It was. Thirty-one of the 42 (74%) gave Color as the reason for liking the card chosen as Liked Best (Table IV). Next most popular reason for liking a card was the ease with which something could be seen. Third place went to Content, with Pleasant emotional reaction a close fourth. One of the two in the normal group who chose Card VI as Liked Best blocked on the reason.

STATISTICAL RELIABILITY OF DIFFERENCES

Because of the discrepancies in the size of the samples and the number of cards chosen by less than ten percent of the subjects (Table II), chi-squares could not be used to determine the statistical significance of the differences between the preferences of the groups for most cards. However, since the preferences of the first 100 mental hygiene clinic patients was practically identical with that for the whole sample, the neurotics could be compared with the normal group. The chi-squares indi-

cate a difference significant at the 5% level of confidence between the neurotic group and the normal group for Card IX Liked Best. There is also a significant difference between the normal and neurotic groups for Card VII Liked Least. The psychotic sample was a little too small to be compared directly with the neurotic group; however, the percentage of psychotics preferring Card IX is very close to that of the normal group, thus suggesting that there may be a real difference between the neurotics and psychotics on this card. Similarly, the percentage of psychotics who disliked Card VII is close to that of the neurotics. *It appears, therefore, that the neurotics are not as apt to prefer Card IX as either the normals or psychotics and that the normals are more apt to dislike Card VII than either group of patients.*

Qualitative Aspects

While, as we have seen, there are some quantitative differences in the preferences of the three groups for the Rorschach cards, the qualitative differences are probably more important diagnostically, prognostically and for screening purposes, just as they are in analyzing the Rorschach itself. The qualitative aspects are especially helpful in discriminating between the normal and the psychotic individuals where the quantitative differences are small. The qualitative differences come out in the observed behavior of the patient while making his choices as well as in the verbalization of the reasons for his choices. For instance, the paranoid who refused to make a choice, insisting he would leave that to the psychiatrist and his mother, exhibited behavior probably more diagnostically significant than any choice he might have made. One hospitalized patient became agitated and began to weep as he picked up Card II saying, "Jesus Christ, that is my dog! Where did you get that picture? Christmas stocking hanging up 63½ years ago. Jesus Christ, where did you get that picture? That is my dog! Devil, poison!" Such losing of distance from the card can only be taken as a psychotic reaction.

Another hospitalized patient said he liked Card X best because it, "Might be the skeleton of a beautiful butterfly. It settles down and dies naturally on grass and leaves colors." The same patient said he liked Card VI least because, "I detest this gruesome thing!" Another patient disliked Card IV because it, "Looks like a dead man. I mean a dead person." Another psychotic patient disliked the same card because it, "Looks like a giant walking on top of someone." One patient disliked Card VII because he saw it as a baby calf skinned alive. Still another psychotic patient said he disliked Card I because, "It reminds me of a vampire bat. They do exist, you know!" He then proceeded in a supercilious manner to give the examiner a lecture on the existence and behavior of vampire bats.

The neurotic patients do not usually give as unique or personalized reasons for their preferences for the Rorschach cards as the psychotic patients. They do, however, frequently give emotionally tinged material which has not come out during the administration of the individual Rorschach. For instance, several said they disliked Card II because of the blood although they had not previously mentioned seeing any blood. Several brought out sexual material. One clinic patient who chose Card

VII as Liked Least commented that he had "No objection to woman's face or sex organs but not the way they are shown here." Another said of Card VI, which he Liked Least, "The sexual one. Think the same conflict. I had an impulse to touch that."

SUMMARY AND CONCLUSIONS

Two hundred mental hygiene clinic patients, 27 hospitalized mental patients and 42 non-patients selected the Rorschach cards they Liked Best and Least and gave their reasons. While there is a good deal of overlapping among the three groups, there seem to be some quantitative differences in their choices and the reasons for their choices. All groups showed a preference for Card X, but only the neurotic group also found Card X difficult because of the scattered pattern. Card IX was not liked as well by the neurotics as by the psychotics and the normals. Card VII was disliked more frequently by the normal group than by the patients. Since the content of Card V seemed to disturb the psychotics, they disliked it; but it was preferred by the less intelligent neurotics because it was easy. The normals and neurotics most frequently gave abstract reasons for their preferences while the psychotics most frequently gave specific content as the reason for their preferences.

While our psychotic and normal groups were relatively small, and the choices were made under somewhat different conditions for the three groups, there are indications that the preferences may add diagnostically significant material to the Rorschach findings. A further follow-up study is necessary to determine the *prognostic* value of the preferences. When the qualitative material is considered along with the quantitative material, the preferences may be an aid in screening even when a complete Rorschach cannot be given.

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Analysis of Group Rorschachs of Psychologists And Anthropologists[1]

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The data reported in this paper are derived from the administration of the Group Rorschach to 7 faculties in psychology and 5 in anthropology. Similar studies have been reported previously on faculties in biology and in the physical sciences (Roe 1949, 1950). This series of studies is supplementary to clinical studies of ranking research men in these fields (Roe, In Press).

In psychology, the faculties taking part in the study are from the following universities: California, Chicago, Columbia, Iowa, Harvard, Michigan and Ohio. In anthropology, the faculties are from the following universities: California, Chicago, Columbia, Harvard and Michigan. The universities were selected to include those giving the largest numbers of doctors' degrees in the field, from different areas of the country and to include both public and private universities.

In general, faculty cooperation was extremely good; many of the psychologists participating have little knowledge of the Rorschach and a number regard it with disfavor; their willingness to give time and effort to such a study is noteworthy. For many of the anthropologists this was an opportunity to get some first hand acquaintance with a technique which has recently been reported in their own literature. It should be noted, however, that at each university some faculty members did not participate, either because the time was inconvenient or because they preferred not to. I have no data on the effect on sampling, but the members not appearing in each instance are relatively very small.

Except at the University of Chicago where Irving Leiden gave the test to the psychologists, all of the testing was done by me. Kodachrome slides were used, with 3-minute time exposure of each slide during the test proper. All tests were scored first by Dr. Florence Schumer and then by me. The statistical work was done by Miriam Redlo and Lassar Gotkin.

Subgroups of psychologists have been compared for means on age, R (total number of responses) and ITS (Inspection Technique Score).[2] In each instance, an analysis of variance has been run and for those items for which this gave a P of less than .05, paired comparisons have been made. The Inspection Technique Score (Monroe, 1944) is a rough measure of degree of overall adjustment, the lower scores indicating the better adjustment. In addition, for frequency of entries for each group on the Check List, comparisons have been made by Chi-square for the total table and for separate pairs. (Yates correction has been

[1] Part of a study financed by a grant from the Division of Research Grants and Fellowships of the National Institutes of Health of the United States Public Health Service.

[2] I have previously also reported comparisons on W% and F%. These are omitted in this paper, since both are too greatly affected by R and each is covered in a check list entry, adjusted for R. I believe percent of original responses and non-F dominated responses less affected, and hence have included these.

used where appropriate.) The data will be presented in summary tables which will not be extensively verbalized.[3]

Both psychologists and anthropologists were subdivided by sex, and comparisons made, but since no significant differences appeared in either instance between the men and the women, the tabulations are not included.

I. PSYCHOLOGISTS

There are some differences between the different university faculties in psychology. These are not included. The differences are diffuse and their possible meaning is unclear, especially in view of significant differences among them in average age and total number of responses. Particular attention was paid to the comparisons with respect to one university where everything that could possibly go wrong during the testing did go wrong, but there was no evidence that the results were distorted. I suspect that this is largely due to the fact that the subjects took the difficulties in good part, and cooperation appeared not to be adversely affected.

The total group of psychologists has been subdivided for two sets of comparisons, one by extent of knowledge of the Rorschach, the other by specialization in the field of psychology. Division was on the basis of information supplied by the subject. A difficult problem immediately arises here. The subgroups used are, for one comparison: 1. Only theoretical or reading knowledge of the Rorschach; 2. Scoring knowledge; 3. Expert knowledge; and for the other comparison: A. Experimental; B. Clinical; C. Social, Personality and Child; and D. Industrial, Tests and Measurements. It is clear that the two groups with knowledge of the Rorschach are largely the same as the clinical group in the other comparison. The overlap is shown below:

	Exper.	Clin.	Soc., etc.	Ind., etc.	
1. Rorschach Expert	0	18	2	0	20
2. Scoring knowledge	4	12	5	1	22
3. No technical knowledge	21	3	20	18	62
	25	33	27	19	104

The comparisons have been made separately, but the results must be evaluated jointly. Tables I and II present the data for the first comparison, on the basis of knowledge of the Rorschach.

From Table I it is clear that there is an age difference between those who have some technical knowledge of the Rorschach and those who do not, (the former are younger) but there are no differences in total number of responses. The ITS, however, shows marked differences between those who know the test and those who do not. This may most obviously be interpreted as the result of knowing what are poor and what are good responses, but while this is undoubtedly a large factor, there is more to it than that, and interpretation of this difference in means should be reviewed in the light of differences in specific items of the check list, as shown in Table II.

There are only four check list items (see Table II) which show significant differences among these

[3] Detailed tables of check list entries are available for all comparisons reported. Copies can be had upon request.

TABLE I—Mean Comparisons for Psychologists with Varying Degrees of Rorschach Knowledge

		1. No Technical Knowledge	2. Scoring Knowledge	3. Expert Knowledge
	N	62	22	20
Age:	range	28-67	27-57	27-45
	mean	43.69	37.23	35.15
	S.D.	9.93	7.66	6.39
R:	range	10-117	17-79	32-74
	mean	42.87	47.50	46.45
	S.D.	19.77	16.91	13.96
ITS:	range	1-17	1-12	0-13
	mean	9.18	5.77	6.90
	S.D.	3.78	2.86	3.21

Variance in Table			Significant differences between sub-groups	
	F	P	Groups	P
Age	13.77	<.01	1 and 2	<.01
			1 and 3	<.01
R	.64	>.05		
ITS	8.70	<.01	1 and 2	<.01
			1 and 3	<.01

TABLE II—Comparison of Check List Entry Frequencies for Psychologists with Varying Degrees of Rorschach Knowledge

Groups: 1. No technical knowledge
Groups: 2. Scoring knowledge
Groups: 3. Expert knowledge

	3 x 2 Tables		Between Groups		
Check List Item	Chi-Square	P	Groups	Chi-Square	P
Range — or t	13.04	<.01	1 and *3**	12.13	<.01
			2 and *3*	4.81	<.05>.02
Form, BV,V,B	18.10	<.01	*1* and 2	10.64	<.01
			1 and 3	9.79	<.01
M +	21.85	<.01	1 and *3*	18.68	<.01
			2 and *3*	7.74	<.01
Color shock	36.65	<.01	*1* and 3	15.49	<.01
			2 and 3	6.54	<.02<.01

* Groups in italics are those with relatively higher frequencies.

groups: range, poor or bad form, excessive use of M, and color shock. Specifically, the experts differ from *both* of the other groups in their much greater use of human movement responses, which also limits their range (a minus entry for range is usually given for excess of H and A responses, the entry t for perseverating responses), and in the lesser incidence of color shock among them. Those with no technical knowledge of the Rorschach use more poor or vague forms than either of the other groups. These specific differences, however, are too few in number to account for the differences in total ITS; they merely point up the areas in which the performances differ most consistently. Whether this is due to knowledge of the Rorschach or to the fact of being clinicians (and possibly a different sort of person) remains to be seen.

Tables III and IV give the data

for the breakdown of the group into four specialty groups. Again there are no differences among the groups in total number of responses, but the clinicians are younger and have a lower ITS, a significant difference from the experimental or industrial psychologists. On Table IV, individual check list items are shown.

Of the 11 significant paired comparisons, 4 involve group A, 10 involve group B, 2 involve group C and 6 involve group D. The ex-

TABLE III—Mean Comparisons for Psychologists of Different Specializations

		Experimental A	Clinical B	Social, Child, Personality C	Industrial, Statistical D
	N	25	33	27	19
Age:	Range	28-67	27-57	27-59	28-59
	Mean	40.36	36.61	43.00	44.95
	S.D.	10.68	7.51	9.07	9.41
R:	Range	13-87	29-72	10-81	16-117
	Mean	41.36	48.15	42.59	45.21
	S.D.	18.20	13.10	18.53	23.90
ITS:	Range	4-18	0-13	1-19	5-16
	Mean	9.48	6.39	7.63	9.47
	S.D.	3.81	2.99	4.20	3.02

Variance in Table	F	P	Significant Differences Between Sub-Groups	P
Age	3.91	.05>P>.01	B and C	<.01
			B and D	<.01
R	.78	>.10		
ITS	4.71	<.01	A and B	<.01
			B and D	<.01

TABLE IV—Comparisons for Psychologists with Different Specializations

	F	P	Comparisons between Groups (A Experimental; B Clinical; C Social, Personality, Child; D Industrial, Testing)	Chi-Square	P
W +	10.21	<.02>.01	B and *D**	8.27	<.01
F (BV,VV,B)	20.17	<.01	B and *D*	17.37	<.01
			A and *D*	3.91	<.05
			A and B	5.70	<.02>.01
K, k +	9.10	<.05>.02	B and *D*	6.99	<.01
M +	15.16	<.01	A and *B*	7.57	<.01
			B and D	5.11	<.05>.02
			B and C	7.79	<.01
Color shock	11.87	<.01	B and *D*	7.74	<.01
			B and *C*	5.73	<.02>.01
FC −	11.54	<.01	*A* and B	11.34	<.01

* Groups in italics are those with relatively higher frequencies on the check-list.

perimentalists (Group A) show no differences from the social group that are significant, and differ from the industrial group only in having fewer entries for poor form; they use much less M and less FC than do the clinicians.

The clinicians (Group B) clearly are the most distinct from the other groups; in addition to the items noted in comparison with the experimentalists, they differ also from the social psychologists in greater use of M and lesser incidence of color shock, and they differ from the industrial psychologists in using relatively less W, less poor form, less k or K, and more human movement. One could summarize these differences in the usual interpretation as pretty consistent with a generally greater amount of free anxiety in the industrial group, along with lesser interest in persons.

The clinicians, then, differ from the other groups in some ways that are the same as the differences between experts and non-experts in the use of this test, namely the differences in use of human movement responses, the better form and the lower incidence of color shock. It can be argued that clinicians are more interested in people, (which in my judgment is the primary meaning of M) and also that, being experts, they know that M responses are, in general, "desirable" ones. The experts, however, also know that extreme use of M as a determinant is a deviation which may indicate problems, yet it is the extreme use of M that comes out as a differentiating factor, not adequate use of it as compared to inadequate use of it. Furthermore, M responses inadequate in some way, or poor (if there are many of these, they warrant a check list entry, such as r for remote in content or restricted in activity, b for poor form, lil for M seen in minute areas, etc.) are about as frequent among the clinicians as among any of the other groups (check list entries for 24% of the experimentalists, 27% of the clinicians, 33% of the social and 26% of the industrial groups) and as frequent for those with expert knowledge of the Rorschach as for those with none (30% and 32%; those with scoring knowledge have only a 14% incidence of this item). Hence, although the experts use more M's than the other groups they do not use better M's.

Both clinicians and experts use better form generally than the groups they are contrasted with. Whether this is due to their being clinicians or to being experts it seems impossible to say, but it reflects the generally better control of this group, on the Rorschach, which is also shown by the ITS differences. It is at least possible that this is primarily a function of expert knowledge—care with form or the omission of poor form responses would be easier (even without conscious awareness of it and without intent) than noticing the number of M responses sufficiently to cut them down. It is also possible, that since the handling of the test was devised by clinicians it reflects their own type of adjustment. This possibility is discussed more fully later.

As to color shock, mild degrees of it by Munroe's scoring are included in the tabulations but in my experience have very little clinical significance. If only the severer degrees of color shock are considered, the incidence is: Group 1 (no knowledge), 6; Group 2 (scoring), 1 and Group 3 (expert), 0. For subdivision by field, the incidence is 1 for experimentalists, 0 for clinicians, 3 for social and 3 for industrial psychologists. These differ-

ences are clearly not significant. Under these circumstances, and in view of recent work (Lazarus, 1949; Siipola, 1950) on this aspect of the Rorschach I am inclined to disregard this entry.

The other items on which the clinicians differ from the various other groups (i.e., W+, K, FC–) appear to show deviances for the other group rather than for the clinician, and they do not seem to bear any relation to degree of knowledge of the test.

Content of responses in these various groups has been examined in some detail. They show no marked differences except the high H and Hd among the experts and the clinicians, which is reflected in the differences in M and range already reported.

Cronbach (1949) has pointed out that if one makes a number of comparisons, some of them should be significant by chance, and will seem to denote significant relations where none exist. This is true, but where the relations are consistent with other knowledge, as is the case with the clinicians' greater stress on M, one can have some confidence that the relations would prove significant in another sample.

SUMMARY

Psychologists acquainted with the Rorschach differ from those without such knowledge chiefly in their use of large numbers of human and human movement responses, in their greater care with form accuracy and in their generally more balanced performance. Clinicians also differ in these same ways from non-clinicians generally and in a few other ways from particular groups of non-clinicians. It is almost impossible to disentangle the effect of knowledge from the effect of field, but it is suggested that the situation is that clinicians do have certain differences in personality from other psychologists, and that the Rorschach which has been developed by them (and colleagues from related disciplines) has been developed into an instrument the scoring and interpretation of which reflects their own dynamics in subtle ways (or their self-ideal of their own dynamics). Even with this, their dominant characteristic, an intense interest in people shows up in contrast with other psychologists as extreme. What would seem of greatest importance, however, is the essential similarity of these sub-groups in all other respects.

II. THE ANTHROPOLOGISTS

The anthropologists who participated in this study total only 25, but this is at least as good a representation from this field as from any other. I had hoped to be able to make some comparisons of the main subgroups, physical anthropology, cultural anthropology and archeology, but these proved impractical. A number of the subjects work in more than one branch, and the numbers are too small for careful study.[4]

Data for the total group are therefore included in the next section, where material on all groups so far studied is summarized.

III. COMPARISON OF PHYSICAL SCIENTISTS, BIOLOGISTS, PSYCHOLOGISTS AND ANTHROPOLOGISTS

This section will summarize the work previously reported for com-

[4] A cursory survey revealed only one marked difference: the cultural anthropologists (including those designating themselves as social anthropologists, or ethnologists) use S responses more often than do the others.

parison with the two new groups.[5] The basic data are given in Tables V, VI, and VII.

There are no differences in age distributions for these groups. In total number of responses the psychologists surpass the others significantly, the other three groups all being at about the same level. Whether this is related to the generally greater acquaintance with the test among psychologists, their probable knowledge that more responses may be interpreted favorably, or to less special factors such as general testwiseness, or a greater verbal productivity I do not know. Perhaps all of these things play a part. Not only did they give more responses than the other groups, but the responses were generally

TABLE V—Comparison of Means of All Groups

		1. Physical Scientists	2. Biologists	3. Psychologists	4. Anthropologists
	N	65	186	104	25
Age:	Range	24-69	23-70	27-67	30-73
	Mean	39.8	41.0	40.7	42.7
	S.D.	11.3	10.1	9.6	11.1
R:	Range	13-68	10-138	10-117	11-68
	Mean	32.9	32.7	44.5	31.7
	S.D.	10.4	16.2	18.3	16.1
ITS:	Range	2-25	0-28	0-19	2-17
	Mean	11.0	11.0	7.7	9.1
	S.D.	4.6	4.8	4.4	4.3
O%	Range	0-44	0-67	0-27	0-23
	Mean	18.6	26.3	7.8	8.7
	S.D.	12.2	13.0	6.1	5.4
Non-F:	Range	0-46	0-43	0-92	0-36
Domi-	Mean	15.5	9.9	9.5	12.8
nated	S.D.	10.1	7.8	10.7	8.5

	Variance in Table		Significant Differences Between Groups	
	F	P	Groups	P
Age:			None	
R:	13.90	<.01	1 and 3	<.01
			2 and 3	<.01
			3 and 4	<.01
ITS:	11.21	<.01	1 and 3	<.01
			2 and 3	<.01
			2 and 4	<.05>.02
O%	86.60	<.01	1 and 2	<.01
			1 and 3	<.01
			1 and 4	<.01
			2 and 3	<.01
			2 and 4	<.01
Non-F:	15.08	<.01	1 and 2	<.01
			1 and 3	<.01

[5] Unfortunately other occupational groups are not available for close comparison at this time. Most Group Rorschach studies reported in the literature have not used the Munroe technique, and hence comparisons are too greatly affected by variations in total number of responses, which Munroe's system largely obviates. The report of Kaback (1946) on pharmacists and accountants has the additional disadvantage for comparison with these results that she used an exposure time of 1½ minutes per card instead of the customary 3 minutes. Steiner's report on engineers, clerical personnel, advertising copywriters and commercial artists is not yet available in full and Harrower's report of it (1950) does not give numerical data.

more elaborated, and the inquiry more fully filled out.

The mean for ITS is lower for the psychologists than for any of the other groups and the difference is significant for the comparisons with physicists and biologists. The difference between biologists and anthropologists is possibly significant. This score, as a measure of overall clinical adjustment is admittedly fairly crude but it has some validity. I have earlier discussed the need for keeping a differentiation clearly in mind between "clinical adjustment," i.e., lack of stress and strain in the person's adjustment, and "social adjustment," or the ability to get along in spite of the presence of problems. It is to the former that the ITS and other such measures apply and it is clear that they are not perfectly correlated with the person's actual behavior in a life situation. They give some indication of what the "social adjustment" may cost. It seems evident that some of these subjects are having a rough time, but since all of them are getting along adequately in society to the extent that they are holding good professional position, one must look with great caution on any reliance upon such tests alone as indicators of "social maladjustment". The extent to which serious difficulties can be tolerated or obviated is much greater than those who work only with the socially maladjusted usually realize.

Even with this distinction clearly in mind its does not follow that the observed differences between these groups must be interpreted as showing that psychologists are on the whole better clinically adjusted than the others. The factor of acquaintance with this test and with tests in general must be considered, although in my judgement the latter is not very important here. Sixty percent of the psychologists had no technical knowledge of this test, and they also had a lower average ITS than did the physicists and the biologists (see Table I), although the differences are less. The possible factor mentioned in discussion of the contrast between clinicians and other psychologists may have even more importance here. That is that the concept of "adjustment", and the criteria by which it is judged, whether test criteria or any other, have been largely developed by psychologists (and psychiatrists), and among psychologists, primarily by clinicians or psychologists interested in personality theory. It is not unpsychological to speculate as to how far they have set up this ideal in terms of their own images. The possibility deserves serious consideration. It seems very probable that current concepts of adjustment reflect primarily the type of adjustment that is palatable to the sort of people that psychologists are. There may well be other kinds of adjustment that are just as valid in terms of overall social criteria, which are not so recognized by us. I believe this to be the case. I have by now a very considerable acquaintance with individuals in all of these fields. It seems quite clear to me that the sort of adjustment which is common among physicists, or (with differences) biologists, and which differs primarily from the psychologists' ideal in including relatively little in the way of interpersonal contacts is just as satisfactory *for them* and for society generally, as the psychologist's is for him, when he attains it. Specific differences, then, seem more important for present purposes.

In percent of original responses (0%) the biologists are significant-

ly higher than any of the others and the physicists significantly higher than either psychologists or anthropologists. Scoring of original responses is one of the more subjective parts of all Rorschach scoring, but all of these were scored by me (as well as by an assistant) so that any bias I may have as a psychologist or as a person should be a relatively constant factor. On the other hand, the drop is in the sequence in which the scoring was done, and it is possible that this has affected our criteria. There is some association here with "technical responses" (T), which are practically non-existent among psychologists, rare among anthropologists, frequent among physicists and very common among biologists. (Some of these are originals, but if given by a number in the group they were not scored as originals.) It is possible that the bilateral symmetry of the cards is a factor here. Such symmetry frequently suggests living forms, which could presumably stimulate more unusual responses from groups with a wider acquaintance with these forms. Perhaps, also, human responses should be scored as technical for psychologists—given our bias, a suggestion of living forms might as well be interpreted as people by us, as animals or plants by biologists.

Table VI gives the check list items which showed significantly different frequencies among the groups, by Chi-square on 4 x 2 tables. For these items further comparisons were made for all pairs of subgroups, and the significant ones ($P < .05$) are shown in Table VII. Psychologists seem to differ most from the other groups. The details are clear in the table, but a few generalizations may be made. Physical scientists are relatively high with respect to all three groups in their use of inanimate movement responses, high with respect to biologists and psychologists in their use of three-dimensional shading responses, and high in shading shock compared to psychologists and anthropologists.

Biologists are high in 0% with respect to all the other groups, as already noted; they use relatively more responses with F as a determinant and fewer with FC than either physical scientists or psychologists, and less color altogether as well as a more orderly approach than either psychologists or anthropologists, and they show more shading shock than either of the two latter groups.

The psychologists are higher than any of the other groups in their erratic succession and their use of M responses.

The anthropologists are more erratic in succession than physical scientists or biologists, and more casual about form than biologists or psychologists.

TABLE VI—Check List Items Having Significantly Different Frequencies

By Chi-Square on 4 x 2 Tables

Item	Chi-Square	P
S +	13.46	.01
Suc 1	114.45	.01
O +	23.37	.01
At. sex	14.39	.01
F%	59.85	.01
F, BV	22.58	.01
Shading shock	60.44	.01
c +	10.02	.02
K, k +	22.37	.01
M +	54.69	.01
M −	31.43	.01
FM −	10.80	.02
m +	32.79	.01
Color shock	8.85	.05
FC −	32.20	.01
CF +	12.60	.01
Total color	38.35	.01
Color: movement +	23.12	.01
Color: movement −	7.96	.05

TABLE VII—Comparisons on Check List Showing Significantly Different Frequencies

	1. Physical Scientists		2. Biologists		3. Psychologists	
2. Biologists	*Higher for 1* S + K, k M + m +	*Higher for 2* O + F% FC −				
3. Psychologists	*Higher for 1* Shading shock c + K, k M − m + Color shock FC − Color: movement +	*Higher for 3* Suc 1 M +	*Higher for 2* O + At, Sex F% Shading shock M − FM − FC − Total color − Color movement +	*Higher for 3* Suc 1 M +		
4. Anthropologists	*Higher for 1* Shading shock m + Color: movement −	*Higher for 4* Suc 1	*Higher for 2* O + Shading shock Total color −	*Higher for 4* Suc 1 W, BV Form BV M +	*Higher for 3* Suc 1	*Higher for 4* At, Sex Form, BV M − FC − CF +

The sharp distinction between biologists and physical scientists on the one hand and psychologists and anthropologists on the other in the incidence of shading shock is a matter of considerable interest. The percentage figures of incidence of checks for this item are: physical scientists, 75%; biologists, 61%; psychologists, 36%, and anthropologists, 28%. The meaning of shading shock has not been very well explored. It is generally considered to be quite rare among normals, to indicate a basic anxiety, a readiness to be upset, a fear of what is unknown and a consciousness of danger and to be deeply rooted in early experience. Such interpretation does not seem very helpful here, by itself.[6]

[6] I cannot refrain from speculating on this point, but to emphasize the entirely speculative nature of my remarks I have relegated them to a footnote. From clinical studies of individuals active in research in each of these fields (and among whom, incidentally, the same differences appear as in the group study) I can adduce the following evidence, although I cannot show that it bears on incidence of shading shock. Noteworthy in life history material of the biologists and physicists is generally an apparent independence of very close personal relations, dating quite far back, and usually now maintained without great stress. Some considerable incidence of such things as, among the biologists, early loss of a parent, and among the theoretical physicists, early

The generally greater casualness of psychologists and anthropologists about succession and the formal aspects of the blots are also indicative of less reliance upon, or perhaps less need for, more intellectualized forms of control, although there is considerable individual variation among them in these respects.

Content of the responses has been tabled for all groups, and averages computed. It was felt that these data would be affected by the total number of responses, so that a tabulation of the number of subjects in each group making any use of a category as a main response was also made. Rankings by the two techniques correlate highly (ρ is .91 to .99 for different groups) but the number of subjects using each category has been used in the comparisons below. Table VIII gives the rank correlations on this basis for 27 content categories.

TABLE VIII—Rank Correlations for Frequency of Use of Each of 27 Content Categories

	Biologists	Psychologists	Anthropologists
Physical scientists	+.909	+.810	+.850
Biologists		+.764	+.820
Psychologists			+.924

Table IX gives comparisons among the groups on use of individual categories. Only those are included in the table which gave Chi-squares on a 4 x 2 table with a P of less than .05.

TABLE IX—Content Categories Showing Significantly Different Frequency of Use

By Chi-Square on 4 x 2 Tables

Category	Chi-Square	P
Human	15.554	.01
Human detail	17.786	.01
Anatomy	23.633	.01
Sex	7.987	.05
Object	51.819	.01
Animal Object	31.514	.01
Plant	150.94	.01
Science	20.148	.01
Geography	8.782	.05
Explosion, bomb, fire rocket	17.826	.01
Cloud, wind, smoke	16.313	.01
Snow, ice, glacier	24.323	.01
Mud, paint, ink	26.453	.01
Clothes	12.913	.01

Table X gives the paired comparisons. It can be seen that there are a few consistent differentiations. The physicists are higher than all the others in use of the categories explosion and snow, and the psychologists are higher than all of the others in H or Hd responses. The greatest contrast in content is between the biologists and the psychologists (and it should be noted that all of the points in which the biologists differ from the anthropologists are also in this list), and the psychologists also differ from the physicists in many of the same categories. Biologists and physicists show relatively greater use of plant responses than the others and psychologists and anthropologists relatively

severe illness, offer the suggestion that interpersonal relations were early disturbed and that the reaction could quite possibly have been a deep and effective repression of the basic "need". Among psychologists and anthropologists on the other hand, there is much evidence in past and present histories of severe, overt disturbances in interpersonal relations; far from repressing the problem they have gone at it headlong. The vocational choices are in keeping with this situation. If shading shock is a reflection of an insecurity related to early failures or loss of interpersonal relations *which have been accepted,* (or which have been handled somehow) it would fit this picture.

TABLE X—Content Categories Showing Significantly Different Frequencies

	1. Physical Scientists		2. Biologists		3. Psychologists	
2. Biologists	*Higher for 1* H Obj. Expl. Snow	*Higher for 2* AT				
3. Psychologists	*Higher for 1* AObj. Pl. Geo. Expl. Cloud Snow Mud	*Higher for 3* Hd Clothes	*Higher for 2* AT AObj. Pl. Sci. Geo. Cloud Snow Mud	*Higher for 3* H Sex Obj. Clothes		
4. Anthropologists	*Higher for 1* H Pl Expl. Snow Mud	*Higher for 4* AT Obj.	*Higher for 2* Pl Sci. Mud	*Higher for 3* Obj. Clothes	*Higher for 3* H Hd Cloud	*Higher for 4* AT Obj. AObj.

greater use of clothing responses. Anatomical responses are relatively high among biologists and anthropologists and low for the others. Clearly, psychologists and anthropologists resemble each other relatively closely and one would be quite justified in grouping them together as social scientists or under some other rubric.

Summary

In very broad summary it may be pointed out that physical scientists show, on the Rorschach, marked concern with 3-dimensional space and inanimate motion and see both more explosions and more snow and ice in the cards (as well as more plants) than some of the other groups. Biologists are greatly concerned with form in various aspects, and in content categories give relatively many anatomical responses and plant responses (these were not much greater among botanists than other biologists). Psychologists (and to a lesser extent the anthropologists) are little concerned with ordering their responses logically, but are deeply concerned with people.

Such statements as the above could equally well be made from observation of the vocational behavior of these subjects. Whether they adopted their vocations as a means to doing the things they were interested in, or became interested in the things they found themselves doing may be in question, but the pervasiveness of their interests would lead one to the former interpretation. It is clear that these concerns are so pervasive that they directly affect what the subjects see in an inkblot. This is, in some sense, a validation of the general principles of the Rorschach, but not of the details of its application. These can be validated only on the basis of intensive individual studies.

It may be remarked here that

the research scientists studied individually on this same project show precisely the differences between fields that the subjects reported here do. This may be considered at least inferential evidence that the Group Rorschach is enough like the Individual Rorschach that the major details of treatment can be the same.

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An Analysis of Patient-Examiner Interaction With the Szondi Pictures [1]

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Introduction

Of continued concern in the field of clinical psychology is the problem of the differential effects of examiners in projective test situations. The question of the examiner as an uncontrolled variable goes beyond those differences which may result from variances in administrative technique or interpretation, but is related to the effect that the examiner, as a particular personality, may have on the test results. It is important that we know whether such differences do exist, and if they do, that we understand their etiology and their nature. It is further assumed that objective data relevant to interpersonal behavior expressed in the highly charged need and stress situation provoked by an unstructured test should shed some light on the differential role of the psychotherapist in treatment. Finally, some matters concerning the validity of the Szondi test and some insight into the modes of defenses used by patients in the testing situation may be studied through examination of the overt conscious descriptions offered by patients utilizing a picture description technique.

The experiments reported in this paper are attempts to answer to some degree the following questions: (a) Is there a change and what is the nature of the change in projective test results obtained under conditions of individual and group administration? (b) Is the day to day variation of test results obtained from patients in individual test situations, or from examiners in self-administered tests, more than would be expected from the operation of chance factors alone? (c) When administrative procedures are carefully controlled, what characteristics in examiners seem to make for changes in patients' test protocols, and vice versa? (c) What light can be thrown on issues of validity of the Szondi technique?

Rationale and Instrumentation

Four groups of subjects were used in these experiments. Two groups, P_A and P_B, were each composed of five male paranoid schizophrenics, while the other two groups, E_A and E_B, were each made up of members of the psychological staff at Northampton VA Hospital. Group E_A was composed of one staff clinical psychologist and four psychological trainees; group E_B was composed of two different staff clinical psychologists, and three different psychological trainees.

The Szondi technique was selected for use in this study because of

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[1] An abstract of this paper was presented at the meeting of the Society for Projective Techniques, Chicago, August, 1951. Reviewed in the Veterans' Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans' Administration.

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the ease of standardizing the administration, the research value obtained from repetition, and the essentially quantitative scoring which lends itself to statistical treatment. Certain qualifications should be entered in regard to the instrumentation. What has been said thus far concerning the practicability of using the Szondi for the type of investigation that has been undertaken should in no way imply unswerving acceptance of either the rationale or the validity of the test. Actually, this has been a pilot study in an effort to accumulate data that might shed some light on those areas of Szondi testing that are open to question. One general theoretical concern appears to be the correctness of Deri's assumption that the particular stimulus (or complex of stimuli) represented by any Szondi picture will unequivocally set off one, and only one, and always the same need system in the perceiver-subject. Such an assumption is implicit in the single weight Szondi scoring especially since no latitude is permitted in the test situation in which the examiner can accumulate the elaborateness of personality function which is everywhere assumed to exist beneath overt behavior.

In a review of Deri's text, Schafer (1950) presents twelve doubtful assumptions made by Szondi workers. Two of these assumptions are particularly relevant to our study: "(8) There are no "popular" reactions (pictures "liked" or "disliked" with very high frequency) which, by being "popular," require some modification of interpretation . . . (9) The expressed dynamics on the faces of the patients are equally well perceived by all subjects, so that for each picture the "likes" or "dislikes" of all subjects have essentially the same qualitative implications and quantitative weights" (1950, p. 186). The question of "popular" choices has also been studied by Cole and Roberts (1950); more mention of this study will be made later.

The validation study reported in this paper may throw some light on Schafer's ninth criticism, quoted above. In order to accomplish this objective, the picture description procedure was developed. In this technique, the subject was asked to match each of the 48 Szondi cards with one of the following descriptive phrases[4]:

1. This man is more like a woman or "queer."
2. This person is mean and cruel.
3. Sugary but explosive.
4. Easily led and a "show-off."
5. Withdrawn but excitable.
6. Distrustful and blames others.
7. Blue and moody.
8. Loud and cheerful.

In picture description, when asked to tell how he would describe a given picture, the perceiver is required to expand upon his overt expression of "like" or "dislike" and, coincidently, to give further inferential clues about the immediate dynamics which underly his perception. This procedure would seem to offer one safeguard over the regular Szondi procedure in that now inferences are made from the patients' conscious reports alone and not from an assumed, and more remote, unconscious interaction between him and the picture. Thus, the process of sorting overt from covert processes assumes a more conservative aspect.

[4] These descriptive phrases are thought to be relevant to the dynamics of diagnostic classifications represented in each picture-group on the Szondi. Thus, phrase 1 is equated with the h factor, 2 with s, 3 with hy, 4 with e, 5 with k, 6 with p, 7 with d, and 8 with m.

In connection with the projective nature of the Szondi, it should be noted that in comparison with the Rorschach, some of the basic requirements of a projective test are violated by the limiting of both stimulus and response fields. While the description technique utilized in this study, when taken in conjunction with the regular Szondi technique, does not arrive at the subtlety of inquiry achieved in the Rorschach, it does broaden (make less structured) the response field.

Finally, a comparison of consistent responses found in utilizing the description technique and the "populars" found in utilizing the regular Szondi technique might provide information about the differences between visible overt symptomatology and genetic covert classes. For if the Szondi assumptions are correct, the pictures which are popularly chosen by a given diagnostic group should also be consistently described in the picture-description technique. This would be evidence for overt and covert functioning on the Szondi and might in part verify Szondi's original assumptions concerning the unconscious factors which influence responses on his test.

PROCEDURE

Each of the five patient-subjects in a group was tested on each of five successive days by one of the examiners in the corresponding group. The testing schedule was arranged in the form of a Latin Square such that no subject was tested more than once on any day nor more than once by any examiner. This arrangement was used in order to cancel out and subsequently control possible day-to-day patient personality changes, practice effects, and other temporal variables. A schematic arrangement of the schedule is presented in Table I.

TABLE I—Specimen Testing Schedule

	Examiner				
Day	1	2	3	4	5
Monday	A*	B	C	D	E
Tuesday	B	C	D	E	A
Wednesday	C	D	E	A	B
Thursday	D	E	A	B	C
Friday	E	A	B	C	D

* Patients are represented by the letters A through E.

The Szondi administrations were standardized and the examiners were briefed on the method which was to be employed. Before the examiners administered the test, they talked to the patient for a period of ten minutes in order to maximize the personal aspects of the testing situation. All examiners were instructed to approach the patient in a manner which they felt would be most appropriate for establishing a good diagnostic testing situation.

In accordance with standard procedure, the patients were always asked to choose the two pictures from each picture-group which they liked most and the two pictures which they liked least, or disliked most. The pictures were always arranged in the same order for each patient. On each day that an examiner tested a patient in the individual situation, he self-administered the Szondi as soon afterwards as was feasible. In this self-administration, the examiner also picked out the two most liked and the two least liked photographs from each picture-group.

One group of patient-subjects (P_B) was asked, on the fifth day, to describe each of the forty-eight photographs as outlined above. About two weeks after the indi-

vidual administration this group was also given the Szondi in a group situation for a period of five days by a psychological trainee not otherwise concerned in this experiment. The average production of each patient during the group-testing phase of the experiment was used as a baseline for the evaluation of changes from the group to the individual testing situation.

Results and Discussion

The data obtained from the four sets of twenty-five administrations of the Szondi were treated by a technique of multiple-analysis of variance which permitted the control and analysis of the several sources of variance: subjects, examiners, the days of administration, and residual error. Three such analyses were made for each of the eight Szondi factors: positive (likes), negative (dislikes), and total choices. Tables III, IV, V and VI present the *F* ratios and levels of significance obtained from these analyses. Responses made in the individual testing situation for Group P_B were also scored in terms of the deviation of each patient's daily production from his own group-test average; the *F* ratios obtained from the analysis of these

Table II—*F* Ratios Obtained from Analysis of Variance of Changes in Szondi Choices of Patient Group B from Group to Individual Test Situations

Factor	Sources of Variance		
	Patients	Examiners	Days
h plus	2.15	1.67†	1.10
h minus	1.03	1.27†	2.06†
h total	4.00*	2.88†	2.88†
s plus	2.12	1.07†	1.07†
s minus	7.10**	1.68	1.05†
s total	4.51*	1.20	1.19†
e plus	4.49*	2.54	1.54†
e minus	15.27**	1.54	1.73
e total	2.46	1.38	3.06†
hy plus	6.00**	2.88	1.62
hy minus	8.97**	2.00	1.39
hy total	5.83**	1.83	1.33
k plus	10.84**	1.37	3.79*
k minus	4.78*	4.79†	1.97†
k total	6.16**	4.85†	2.25†
p plus	1.53	2.69†	2.69†
p minus	2.96	2.77†	4.15†
p total	14.27**	1.19	7.68**
d plus	9.88**	4.24*	1.58
d minus	3.75*	1.26†	1.26†
d total	2.95	1.79	1.02†
m plus	4.52*	1.13†	2.54†
m minus	2.00	1.06	1.25
m total	3.52*	2.30	1.19

* Differences exist at the .05 level of confidence.
** Differences exist at the .01 level of confidence
† Mean Square less than Mean Square arising from error.

TABLE III—*F* Ratios Obtained from Analysis of Variance of Total, Plus, and Minus Szondi Choices by Patient Group A

Factor	Sources of Variance		
	Patients	Examiners	Days
h plus	115.29**	4.57*	1.00
h minus	12.11**	4.33*	2.39
h total	26.65**	1.35	1.36†
s plus	15.61**	1.14†	1.42†
s minus	8.49**	2.64†	2.64†
s total	12.59**	1.45	1.23
e plus	56.71**	1.71	3.14
e minus	9.24**	1.29	2.43†
e total	5.50**	3.00†	1.17
hy plus	24.33**	2.67	1.00
hy minus	3.86*	1.83†	2.85†
hy total	8.46**	2.02†	1.12
k plus	8.38**	1.35	1.23†
k minus	3.65*	2.24†	1.20†
k total	1.16†	1.92†	1.00
p plus	6.00**	2.67	2.25
p minus	2.73	1.72	4.94†
p total	2.45	3.94*	4.79†
d plus	35.82**	2.75†	1.27
d minus	1.39	1.27†	1.39
d total	15.41**	1.00	3.06
m plus	68.15**	1.85	1.11
m minus	11.09**	1.09	1.70
m total	25.16**	1.20†	1.20†

* Differences exist at the .05 level of confidence.
** Differences exist at the .01 level of confidence.
† Mean Square less than Mean Square arising from error.

deviation scores are found in Table II.

Differences in results obtained in individual and group testing:

Inspection of the first column of Table II indicates that there is considerable lack of consistency in the way patient-subjects change from the group-testing situation to the individual-testing situation. Sixteen of the twenty-four Szondi variables show this lack of homogeneity. In most cases, the heterogeneity is due to two patients, different for each factor, one of whom increases in a given factor and the other of whom decreases. No one patient consistently changes on all factors.

Analysis of the average change from group to individual testing by *t* tests indicates that e+, e total, p+ and p total drop significantly ($P<.05$) in the individual situation while d+, d total, and m total increase significantly in this situation. These results support to some extent the findings of Scherer (1949) who found that patients in the individual situation tend to give less p+ and more m+, suggesting less need for projection and more dependency needs in the individual testing situation. However, the present findings contra-

dict Scherer in the d+ factor, suggesting that there is an increase in possessiveness and/or anality in the individual situation.

Day-to-day variation:

Significant day-to-day variation is found only once (at the .05 level of confidence) in 96 statistical tests (Table V). This, then, is probably a chance variation, in spite of a significant t value ($P<.01$) for Day 4, Group E_A, which suggests a fewer than average m− responses on this day for this group. In dealing with the change from group to individual testing, however, (Table II) we find a differential shift in k+ and p total responses. Further examination of the original data reveals that on the second day of testing, there was a greater than average increase in k+ and a greater than average decrease in total p, both of which may be due to an attempt on the part of the patients to form some sort of positive relationship with the examiners in the individual situation. In general, however, daily variation is not significant for these groups of patients and examiners. This does not tell us whether a single patient or examiner varied from day to day, though inspection of the daily protocols indicates that there is variability. Indeed, we would expect it, for as Deri (1949, p. 40) states ". . . in the Szondi test we do not assume that the maximum degree of test-retest reliability is also the most desirable degree. Since the Szondi reflects the personality as a dynamic process, and not as a static entity, some fluctuations in the reactions, from one testing to the other, is expected in any well-functioning individual."

Changes due to the interpersonal environment:

Analysis of variance was used to answer questions concerning the interaction of patients and examiners, for it is designed to measure effects due to a single source when variance from all other sources is held constant. In this way, we measure in the patient data, the effects due to the group of examiners, and, in the examiner data, effects due to the group of patients. Let us first deal with the effect which the examiners have upon patients' Szondi choices, and then with the changes in examiner protocols in which patients seem to play a role.

That examiners do have a significant effect on Szondi choices of patients is evidenced by the significant F ratios for factors h+, h−, and p total in the second column of Table III, and for factor d+, in the second column of Table IV. Examiners also seem to play a role in making for differential change from the group to the individual testing situation, as is seen by the significant F ratio for d+ in the second column of Table II. Further analysis indicates that Examiner A-3 increases h+ significantly more than the average of the other examiners, that Examiner A-2 increases p total, and that Examiner A-5 decreases h+, increases h−, and tends to decrease p total.

The characteristics of the examiners which seem to play a role in these changes are found by comparison of the results of each examiner's administration of the Szondi with his own Szondi profile. Examiner A-3 is unique in his group by exhibiting a strong e+ factor in his profile, a finding which is interpreted as being evidence of strong super-ego control. The patients whom he tested indicate in their increased h+ a willingness to accept dependency upon this strong figure. Patients repress

TABLE IV—*F* Ratios Obtained from Analysis of Variance of Total, Plus and Minus Szondi Choices by Patient Group B

Factor	Sources of Variance		
	Patients	Examiners	Days
h plus	14.24**	1.71†	1.07
h minus	5.03*	1.27†	2.06†
h total	13.83**	2.87†	2.87†
s plus	7.67**	1.07†	1.07†
s minus	8.35**	1.68	1.05
s total	5.78**	1.20	1.19†
e plus	4.16	2.54	1.54†
e minus	1.95	1.04	1.17
e total	1.48	2.35	3.06†
hy plus	5.37*	2.87	1.63
hy minus	2.72	1.69	1.50†
hy total	1.33	1.83	1.33
k plus	16.11**	1.37	2.42
k minus	2.30	4.79†	1.97†
k total	6.79**	4.85†	2.25†
p plus	6.65**	2.69†	2.69†
p minus	1.87	2.67†	2.67†
p total	8.35**	2.42†	1.37†
d plus	14.24**	4.24*	1.59
d minus	2.54	1.26†	1.26†
d total	3.03	1.77	1.04†
m plus	18.26**	1.13†	2.54†
m minus	5.58**	1.06	1.25
m total	6.74**	2.30	1.19

* Differences exist at the .05 level of confidence.
** Differences exist at the .01 level of confidence.
† Mean Square less than Mean Square arising from error.

and reject their dependency needs, however, in the presence of Examiner A-5 who has a strong h+ factor. Moreover, patients seem to be less paranoid with Examiner A-5 who has open p and open s factors than with Examiner A-2 who has no open factors and a high s+ factor, thus representing the dominant masculine personality which threatens these patients. In group P_B, only factor d+ is affected, by Examiner B-4. One may hypothesize that the patients' increased reaction in this factor represents an increased need for love because of the rejection and coldness shown in the d− and m− factors of this examiner's Szondi profile. This reaction is seen not only in the individual testing situation, but also in the change from group to individual testing.

Patients have a somewhat different kind of effect on examiners as is seen by the significant variance ratios in the second column of Table V, for factors p− and d total, and in Table VI, factor hy−. It is not at all certain that these significant ratios are due entirely to the patient, for examiner records were self-administered after the patient had left the examination room. The data reveal that examiners are less variable in the three factors under discussion than would be expected by chance. No

TABLE V—*F* Ratios Obtained from Analysis of Variance of Total, Plus, and Minus Szondi Choices by Examiner Group A

Factor	Sources of Variance		
	Examiners	Patients	Days
h plus	8.73**	1.23	2.74†
h minus	14.59**	1.13†	1.93†
h total	3.43*	1.49	1.05
s plus	27.76**	5.50†	1.09
s minus	8.07**	1.14†	1.23
s total	36.76**	1.12†	1.24
e plus	12.74**	1.00	1.43
e minus	2.59	3.14†	1.83†
e total	7.41**	2.54	2.81
hy plus	7.87**	1.00	2.67†
hy minus	23.53**	1.70†	2.35
hy total	4.34*	1.24	1.93
k plus	17.88**	4.25†	4.25†
k minus	2.62	1.68†	1.68†
k total	3.46*	1.56†	1.84†
p plus	4.64*	1.43	1.15†
p minus	3.03	7.75*†	1.10
p total	3.80*	1.84	1.45
d plus	8.97**	5.50†	1.39
d minus	3.60*	1.67†	1.25†
d total	3.14	7.69*†	2.20†
m plus	13.08**	1.42	2.67
m minus	5.85**	2.00	3.54*
m total	11.83**	1.71†	2.67

* Differences exist at the .05 level of confidence.
** Differences exist at the .01 level of confidence.
† Mean Square less than Mean Square arising from error.

uniqueness on the part of the patients seems to cause this phenomenon, so the reason for it must remain unexplained for the present. Further study of the effect of patients on examiners seems to be indicated.

Issues of validity of the Szondi:

The question of the validity of the Szondi technique as a diagnostic procedure can be approached from three points of view. We have, first, the matter of statistical homogeneity of the patients and the examiners as revealed in the analyses of variance. Secondly, the frequency of choice of individual Szondi pictures may throw some light upon this issue. Finally, the relationship between the overt descriptions of the cards, as given by patients, and the covert implications of the same cards, as assumed by Szondi workers, should throw some light, if the Szondi is a valid instrument, on the dynamics of paranoid schizophrenia. Let us discuss each of these questions in turn.

A. *Statistical Homogeneity.* Examination of the first column of Tables III through VI indicates that significant variance arises from the patients or from the examiners in most of the variables studied. The two patient groups show lack of heterogeneity only in factors p— and d— while the two examiner

TABLE VI—*F* Ratios Obtained from Analysis of Variance of Total, Plus, and Minus Szondi Choices by Examiner Group B

Factor	Sources of Variance		
	Examiners	Patients	Days
h plus	36.29**	1.88	1.00
h minus	11.18**	1.00	2.07
h total	24.86**	1.29†	3.73
s plus	10.13**	1.74	1.29†
s minus	12.41**	2.90†	2.90†
s total	13.22**	2.13†	1.50†
e plus	8.92**	1.23†	1.23†
e minus	7.45**	1.27†	1.27†
e total	1.64†	2.27†	2.27†
hy plus	2.28	1.81†	1.12†
hy minus	4.59*	12.75*†	2.13†
hy total	3.55*	3.42†	3.42†
k plus	10.78**	1.28†	2.30
k minus	19.26**	1.00	2.87†
k total	19.40**	1.25†	1.80
p plus	2.94	1.38†	1.38†
p minus	8.52**	1.44†	1.13
p total	1.46	2.09†	1.61†
d plus	1.52	1.21	3.30
d minus	1.29†	1.23	3.14†
d total	2.39	1.65	1.68†
m plus	71.18**	1.70†	1.76
m minus	13.47**	2.42	1.89
m total	18.74**	1.26	2.69†

* Differences exist at the .05 level of confidence.
** Differences exist at the .01 level of confidence.
† Mean Square less than Mean Square arising from error.

groups have no common homogeneous factors. Analysis by critical ratio of the difference between the means for these factors indicates group P_A and P_B are very similar (for p–, $P>.70$; for d–, $P>.10<.20$). Similar analysis of the standard deviations yields a $P>.70$ for p– and a $P>.20$ for d–. This suggests that the Szondi technique is indirectly validated, for the two patients' groups seem to be homogeneous in factors which play an important role in paranoid schizophrenic dynamics. P– is related to the living out of ego needs, while d–, interpreted as "extreme adhesiveness to objects or ideas" (Deri, 1949, p. 125) is also characteristic of this clinical group. The homogeneity shown by the patient groups in these two factors also seems to support Szondi's (1947, pp. 76 and 259) formulations as given in his short descriptions of the basic drive classes. No common homogeneity is found for the examiner groups, as would be expected, since we are dealing here with normal populations in which variability is the rule rather than the exception.

B. *Popular Choices.* Certain of the data presented thus far, together with the findings of Cole and Roberts (1950), suggest that there are popular or stereotyped responses to the Szondi photo-

graphs and that these responses must be taken into consideration when dealing with individual Szondi protocols. In an attempt to find out these popular responses, the examiners' and patients' positive and negative choices of the Szondi photographs were tallied separately. Twenty-five of the forty-eight cards were found to be selected over a five day period by one or more groups with a frequency which exceeded three standard deviations beyond the expected (chance) mean ($P<.01$). The distribution of choices of each of these cards is found in Table VII, together with the P values which Cole and Roberts (1950, p. 383, Table II) give for the male selections of the same cards.

It will be observed in this Table that six cards are picked only by patients (I-m, I-p, II-k, IV-h, V-hy, VI-p). Examiners pick six cards and show strong trends toward frequent choice of two others which are not so chosen by patients (I-hy, II-m, III-k, IV-p, IV-k, V-h, VI-h, VI-d). One card, V-m, is disliked by patients, but liked by the examiners. Finally, ten cards are picked in the same direction by both examiners and patients.

When these data are compared to the findings of Cole and Roberts, we find that the examiners' popular choices *agree* in all eight instances with the previous results. The patients in the present study *disagree* in four out of five instances in which comparison could be made. In one of these, VI-p, the present examiners' choices also disagree with Cole and Roberts, with 2 positive selections and 11 negative selections. Comparison of the direction of choices common to both groups with the data of Cole and Roberts indicates agreement of patients, examiners, and college students in seven instances, disagreement of both patients and examiners with college students in one selection (VI-e), and disagreement of examiners only in one instance (V-m). The two remaining common choices could not be compared. Fosberg (1951) also finds that h+ and p− differentiate between neuropsychiatric cases and normals at respectively the 3% and 5% levels of confidence. These findings lend support to the conclusions drawn from the examination of statistical homogeneity and suggest that the Szondi is a valid instrument since there are choices made by patients which are not made by examiners, and which are in the opposite direction from previous findings with a normal population.

C. *Relationship of overt description and covert implication.* The overt meaning to the patients of the Szondi photographs can be best understood as a result of the analysis of the reaction of patient group B to certain cards. As has been described above, each patient was asked to match each of the forty-eight photographs with one of eight descriptive phrases thought to be relevant to the dynamics of the pathologic entities portrayed in the cards. Table VIII presents those popular choices of this group of patients which were also consistently described by a majority of the patients.

It will be remembered that the two patient groups were homogeneous with respect to factor p− (Tables III and IV) and that the patients' negative cathexis toward photograph VI-p is in the opposite direction from that reported by Cole and Roberts (Table VII). We are now in a position to understand why patients dislike this photograph. Overtly, these paranoid

TABLE VII—Preferences for Most Frequent Szondi Selections

	Group Patients (N=5)		Individual Patients (N=10)		Individual Examiners (N=10)		Male Data (Cole & Roberts)	
Number of Protocols	25		50		50		....	
Expected Mean	6.25		12.50		12.50		....	
Standard Deviation	2.4		3.3		3.3		....	
Cutoff	14		23		23			
							P	*P*
Patients' Choices	Likes	Dislikes	Likes	Dislikes	Likes	Dislikes	Likes	Dislikes
I-m	21	0	29	4			.05	
IV-h*	14	1	34	6				.05
VI-p*	2	17	4	24			.01	
I-p*	1	14					.01	
II-k	2	16					....	....
V-hy*	18	1						.01
Common Choices								
I-k	2	14	1	27	0	45		.01
II-hy	3	18	3	31	0	44		.01
III-hy	1	18	4	39	0	38		.01
IV-m	1	14	3	24	6	23	....	....
III-p	17	0			15	4	....	....
VI-e*	15	1			24	5		.01
I-s	2	13	6	23	9	23		.05
I-e			23	6	27	3	.01	
III-m			24	9	30	2	.01	
IV-d			4	28	2	33		.01
V-m**			15	24	26	11		.05
Examiners' Choices								
II-m					35	2	.01	
III-k					4	26		.01
IV-k					23	9	.01	
V-h					24	7	.01	
VI-h					24	1	.01	
VI-d					5	29		.01
I-hy					22	5	.01	
IV-p					22	1	.01	

* Disagreement with data of Cole and Roberts.
** Patients agree, examiners disagree with Cole and Roberts.

TABLE VIII—Overt Descriptions of Certain Frequently Chosen Szondi Cards by Patient Group B

Szondi Card	*Direction of Choice*	*Overt Description*
I-m	Liked	Loud and cheerful (m)
I-k	Disliked	Blue and moody (d)
III-d	Liked	Withdrawn and excited (k)
III-hy	Disliked	Mean and cruel (s)
VI-p	Disliked	Blue and moody (d)

schizophrenics reject this figure because she is blue and moody. Thus we can say that schizophrenics reject figures who have nothing to offer in the way of emotional warmth; they reject figures who are unable to give them the narcissistic supplies that schizophrenics demand. Consciously they are aware of their rejections, which, in turn, are related to environmental contact factors. Thus, the schizophre-

nic is rejecting his environment.

A second homogeneous factor in both schizophrenic groups was d—. By the acceptance of photograph III-d the patients are identifying the homogeneous d quality in themselves as being withdrawn and excited and, despite these implications, they are willing to accept this as a tensional need. Actually, however, they are accepting, according to Szondi rationale, their own innate anality and possessiveness. Thus, the patients in part have some overt awareness of their condition but, by the rejection of card I-k, appear to reject or resent it, covertly.

The rejection of photograph III-hy is a popular response, but for these schizophrenic patients represents a rejection of what they identify as being mean and cruel. It may be related to a repression of their own aggression, hostility, and possibly anxiety, as suggested by Holt (1950). Finally, the popular acceptance of card I-m which is identified as being loud and cheerful may represent an overt desire to be happy but may also be related to a root factor of demandingness or orality. It is interesting to note, however, in Holt's validational study that m choices correlate highly with certain self ratings involving personality components which are intimately related to the dynamics of paranoid schizophrenia. These self ratings are:

"59. I prefer the company of men to the company of women. (latent n Homosex) + .84

119. I have a strong sense of property and dislike to lose things through lending them. (anality; n Retention) + .79

124. My idea of a good time is a stag party with plenty to drink. (orality; latent n Homosex) + .78

4. I tend to boast of my claims to recognition. (n Recognition: Exhibition) + .82, + .77

98. I occasionally have daydreams in which I take the role of a powerful, omniscient leader. (latent n Dominance: Omnipotence) + .74, + .73"

(Holt, 1950, Table I, pg. 441)

Thus, the patients' acceptance and identification of m cards may be as much related to unconscious homosexuality, anality, or exhibitionistic omnipotent drives as to orality and demandingness.

Thus, we see that these paranoid schizophrenics, overtly, want to be loud and cheerful, dislike those figures who are unable to give them emotional warmth, dislike meanness and cruelty, but are able to accept withdrawal and excitement. Covertly, however, they demand dependency, are unable to accept expression of aggression, accept their own innate possessiveness, show some latent homosexual trends, and react negatively to their environment and to the salient features of their own illness. This is the picture of the paranoid patient as he sees himself overtly, and as he may be, covertly.

Summary

1. Comparison of the Szondi protocols of five paranoid schizophrenics tested in individual and group situations suggests that the patients tend to show more paranoid projection, and less anality and orality in the group than in the individual relationship.

2. Protocols obtained from the individual testing situation indicate that patients' choices of cards are influenced by certain salient features of the individual examiner's unique personality.

3. There does not seem to be significant day-to-day variation in test results in two groups of paranoid schizophrenics and two groups of normal examiners both tested over a five day period.

4. Examination of the most frequently chosen cards indicates that there are some photographs uniquely chosen by patients and examiners and some choices common to both groups. Selections unique to patients tend to be in the opposite direction from choices of a normal population.

5. The Szondi technique appears to be a valid instrument for studying paranoid schizophrenic dynamics both because of statistical homogeneity of basic factors in two patient groups and in terms of the relationship between the overt descriptions and covert implications of certain popular responses.

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The Behn-Rorschach Inkblots: A Preliminary Comparison With The Original Rorschach Series [1]

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I. INTRODUCTION

In view of Rorschach's (1942) explicit assertion that parallel series of inkblots are needed for a variety of reasons, it is surprising that so little has emerged in this area in the three decades since the development of the Rorschach method. Except for Harrower's (1944) brief report on her parallel series, and two short papers by Mayman (1947) and Rosenwald (1947) using the Behn-Rorschach, little work has been carried out to advance our knowledge and techniques in development of suitable alternate forms. The need for parallel series is particularly great, as Rorschach (1942) pointed out, in testing normals in various moods, patients and normal controls before and after various therapeutic procedures in circumstances where in Rorschach's words, "conscious or unconscious memory may enter to warp the result." In view of recent findings concerning the susceptibility of the Rorschach blots to influence by situational anxieties or preoccupations, checking of particular features by retest with a parallel series seems particularly desirable.

The present study represents a preliminary attempt to obtain a quantitative estimate of the similarity of the Behn-Eschenberg Inkblots to the original Rorschach series with a view towards determining its value as a parallel series. Previous studies by Rosenwald (1947) and by Mayman (1947) reported similarities between the Rorschach and the Behn but also noted constant differences between the two, particularly in the color responses. The following investigation, although limited in scope, is aimed at stimulating further research and development in this area by suggesting the need for more refined evaluation of parallel blot series.

II. THE BEHN-ESCHENBURG INKBLOTS

The Behn series is described fully and discussed brilliantly in a manual by Zulliger (1941) who had a very wide experience with the blots and who also had obtained over 60 double-protocols, Behns and Rorschachs from the same subject. About twenty-five of the latter are included in the manual. No quantitative treatment of the relationship of the two series is presented, however, and we cannot be certain that the Behn elicits sufficiently similar responses in the various scoring categories to meet acceptable standards of statistical reliability.

Phenomenally, the Behn cards markedly resemble those developed by Rorschach and parallel them in the types of content and populars elicited, for example. Chief differences include the definitely smaller size of the Behn series, differences

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in color brightness and saturation, the clearer articulation of Ds in the Behn, and, according to Zulliger, the greater number of Animal responses elicited by the newer series. The Behn blots are more distinctly broken up into segments and there is less overlapping of colors.

Scoring of the Behn is facilitated by scoring samples, lists of populars and locations presented in Zulliger's manual. Scoring is based essentially on Rorschach's original scheme with the addition of two shading determinants, one for vista and one corresponding to black-grey reactions. These scoring categories were used in the following investigation to insure uniformity and to take advantage of Zulliger's experience with the test and of his scoring samples.

III. PROCEDURE

No really satisfactory method of quantitative study of the Rorschach determinants has as yet been devised. Nevertheless, within the limitations imposed by the extraction of single factors, the use of percentages in correlation, and the non-analytic matching method, some light may be cast on the relations of the two tests by quantitative treatment. Even the use of correlational techniques, albeit questionable, may serve to point up in quantitative form the problems to be considered in employing the Behn as an alternate form of the Rorschach inkblots.

The present investigation involved three approaches to ascertaining in quantitative fashion the degree of similarity of the Behn and the original Rorschach series.

1. After administering both the Behn and the Rorschach to ten heterogeneous subjects the group totals for each relevant scoring category were compared. This was done to determine whether the two tests in general elicit sufficiently similar reactions to uphold the null hypothesis that responses of the same subjects to both series can be considered as samples from the same parent population. By this method any constant differences between the two blot series, resulting presumably from different stimulus properties, could be observed.

2. To obtain some approximation of the degree of relationship between the two techniques, correlational techniques were employed. The ten experimental cases were added to twenty-three double protocols drawn from Zulliger's manual to increase the total N. While this use of correlation is highly questionable, it is employed merely to provide some approximation of the order of relationship expected for the individual scoring categories, Movement, Color, Form, Wholes, etc. The results could then be at least roughly comparable to the reliability coefficients obtained by Fosberg (1947) on repetitions of the Rorschach itself.

3. To incorporate a more clinical and "global" approach to the comparison a matching study was set up for the ten experimental cases. In this way some quantitative approximation of the similarity of the two blot series could be obtained taking advantage of the interpreters' capacity for integrating and counterbalancing the various single scoring categories.

The first approach to evaluation of the two blot series involved administration of the Behn and the Rorschach to ten subjects. These ten subjects were for the most part normal individuals of both sexes with ages ranging from six to fifty-four. None were severely disturbed emotionally or psychotic. The time

intervals ranged from one day to two weeks in keeping with Zulliger's (1941) comment that at least one day should intervene between administrations to avoid possibilities of fatigue or consideration of the second test as a continuation of the first. Zulliger found that best results were obtained when tests were administered a week or so apart. The instructions were the standard ones as described in Beck (1944). To avoid a constant error because of sequence of tests five subjects were administered the Behn first and five received the Rorschach first.

The tests were scored by the traditional Rorschach method using Zulliger's manual as a basis for scoring samples of the Behn. Shading responses could not be adequately delineated and were lumped together. Certain indices such as F plus and F minus did not appear to be comparable on a statistical basis inasmuch as Zulliger's rationale for such scoring was not given and many responses could not be assigned a plus or minus value.

Other difficulties in equating the scoring arose in connection with Populars and Originals. These were included for the Matching Study (See below) but were not compared statistically. Similarly, in the inclusion of Zulliger's cases for the second part of this study responses scored "Small M" (M in tiny details) by that author were scored as M, as they would be in most American systems. Furthermore, Zulliger does not include Reaction Time for the Achromatic and Chromatic Cards so this variable was excluded from the second part of the study, below.

The responses of the ten subjects for the Behn and the Rorschach were totaled for the separate scoring categories and the significance of the difference in the means on the two blot series was tested by use of the critical ratio. A few rank-order correlations were carried out to obtain a rough estimate of the degree of relationship for this small sample.

The second portion of this investigation involved the addition of twenty-three heterogeneous cases from Zulliger (two cases involving administration under alcohol were omitted) to the ten obtained by the writer. Product-moment coefficients of correlation were calculated for these thirty-three cases in which the Behn and Rorschach were both administered. Calculation of "r"s, especially in the case of percentages, is admittedly dubious at best but they are used for illustrative purposes here. In order to obtain a composite measure for the Location and Determinant categories comparable to that used by Fosberg (1947), "r"s were averaged through transmutation to Fisher's "z" scores, as suggested by Snedecor (1946).

To incorporate some form of the "global" approach to the Rorschach-Behn comparison a matching study was set up for the ten cases administered the test by this writer. The ten Behn protocols were given to judges who were to select from among the unidentified Rorschachs the tests which came from the same individuals. This 10:10 matching is a method widely used for comparing personality data especially in the area of projective and expressive techniques. Chapman (1934) has prepared tables of the possibilities of various degrees of successful matchings. Vernon (1936) has extended Chapman's work and has developed a form of the coefficient of Mean - Square Contingency (C)

which provides an estimate of the *extent of relationship* between matched groups.

Judges were clinical psychologists with from a year to five years of experience with the Rorschach. They were given cards on which the Rorschach psychograph was presented as in the Klopfer-Davidson scoring sheets. The judges were instructed to find the card which corresponded to each they were given from ten cards lying on a desk. Judges were informed that matches should be for pairs from the same individual. The matching as a rule took an hour of intense concentration on the part of the judge.

IV. RESULTS

1. Table I gives the means and sigmas for the various scoring categories of the Behns and Rorschachs administered to the ten experimental subjects.

The results reveal no significant differences between the two series for any of the scoring categories. It is plain from an inspection of Table I that a group profile on the Behn would be almost identical with that on the Rorschach. The null hypothesis that the two sets of responses are probably samples drawn from the same parent population is upheld. This, of course, does not mean that a sufficiently high correlation exists between the two series to enable one to predict an individual pattern but it does suggest that the two tests seemed in this study to elicit in general the same number and type of responses from the ten subjects.

An inspection of the corresponding data for the scoring categories reveals no consistent differences in direction although there is a slight tendency for a greater production of FC responses on the Behn. This is also reflected in the somewhat greater mean Sum C for the Behn and seems to corroborate Rosenwald's (1947) finding of a tendency of the Behn to elicit somewhat more color responses. Phenomenologically, one might expect such a result especially in the case of FC since the Behn blots are smaller and more "broken-up" than the

TABLE I—Means on Behn and Rorschach Scoring Categories

N = 10

Scoring Category	Means		Sigmas		Critical Ratio	
	Behn	Rorschach	Behn	Rorschach		
R	34.4	33.6	13.5	12.6	Not	Significant
T/R	35.0″	34.0″	15.5	12.2	"	"
No. W	8.3	8.6	2.8	4.7	"	"
W %	24.2%	26.0%	....	....	"	"
No. D	19.1	18.6	7.9	5.9	"	"
No. Dd	6.8	7.2	9.1	7.2	"	"
No. F*	18.3	19.5	7.86	4.8	"	"
No. M**	3.6	3.9	2.5	2.2	"	"
No. FC	3.4	2.1	2.4	1.3	"	"
No. CF	1.2	1.4	1.17	1.23	"	"
Sum C	3.2	2.3	1.56	2.19	"	"
No. Shading R***	2.7	2.8	3.9	3.5	"	"
No. A plus Ad	16.3	16.3	6.2	6.2	"	"

* Rank-order correlation = +.63
** Rank-order correlation = +.78
*** Rank-order correlation = +.77

Rorschach blots. The Behn presents a greater number of well-articulated sub-wholes and the *gestalt* principles of *prägnanz* and the "good gestalt" may be expected to operate particularly on Cards VIII, IX and X.

2. Table II presents the correlation coefficient and their significance for the Behn and Rorschach responses of the thirty-three subjects, Zulliger's twenty-three and the ten obtained by this writer. Mean correlations for locations and determinants based on "z" transformation are included.

Consideration of Table II reveals that while coefficients of correlation for determinants and response total are generally significant and rather high they do not meet the ordinarily acceptable level of .90 which is demanded for reliability in alternate forms. The coefficients are generally below those found by Fosberg (1947) for test-retest with the Rorschach alone. It should be remembered that any unreliable scoring would tend to lower correlations between the categories and it was not possible to equate the scoring of the experimental group to that of Zulliger's group with the degree of precision desirable for optimal results, although scoring was done in consultation with experienced judges.

Furthermore, criteria for scoring of shading responses are especially dubious and this too may have led to the low correlation between shading responses. If shading % is not considered, for example, the average "r" for determinants (by "z" averaging) becomes + .74.

The rather low correlation for FC % reflects the tendency noted above for differences in this category to appear between the two blot series. At the same time if one were to include additional responses or "tendencies to FC" the correlation might be somewhat higher. Nevertheless, since FC is generally fairly reliably scored, the lower correlation indicates the likelihood that differences between the Behn and Rorschach test will be among the greatest in the scoring

TABLE II—Product-Moment Coefficients of Correlation Between Scoring Categories on the Behn and Rorschach Series

N = 33 *Category*	*"r"*	*S.E.*	*Significance*
Response Total	.78	.07	P = .01
F%	.79	.07	P = .01
M%	.89	.04	P = .01
FC%	.43	.14	P = .05
CF%	.68	.09	P = .01
C%	.74	.08	P = .01
Sum C%	.72	.08	P = .01
Shading %	.39	.15	P = .05
W%	.29	.16	Not significant
D%	.44	.14	P = .01
Dd%	.46	.13	P = .01
A + Ad%	.42	.14	P = .05
No. F	.79	.07	P = .01
No. M	.81	.08	P = .01
No. FC	.27	.16	Not significant
No. CF	.67	.10	P = .01
Sum C	.70	.09	P = .01
No. Shading R	.76	.08	P = .01

Mean "r" for Determinant percentages (based on "z" transformation) = .68.
Mean "r" for Location percentages (based on "z" transformation) = .39.

category of FC. M, on the other hand, is notably stable.

The location categories are revealed to be fairly unstable and although unreliability in scoring undoubtedly has played its role here, as well, one can conclude that the Behn and Rorschach do show differences in eliciting consistent use of blot areas from subject to subject. It would appear that, since no constant differences are found which could be considered in interpretation, the two tests are not sufficiently parallel to bring about the same "approach" from the subject. Were it possible to use more refined scoring techniques here — as for example Beck's "Z" or Hertz's "g," somewhat greater light might be thrown on the constancy of a subject's approach on the two blot series. Within the limitations of the present study insufficient evidence is available to decide this issue with any degree of certainty, however.

One is led to conclude that while some factors show high reliability coefficients, the correlational technique suggests inadequate reliability for certain important scoring categories. Most stable is M, whether expressed as a per cent of total responses or in absolute numbers. The determinants generally are more stable than the location categories; the inadequate reliability of FC responses and W % greatly lowers the comparability of the Behn and Rorschach series for individual cases.

3. Matching Study.

The results of the 10:10 matching study are presented in Table III. Results are in per cent of ten correctly matched (S%) with significance and coefficients of Mean-Square Contingency, based on Vernon (1936) and Chapman (1934) presented.

The results of this matching study suggest that the protocols of the same persons on the Behn and Rorschach can be matched with a fairly high degree of accuracy.

Inasmuch as there were a number of very similar records, especially those of the children involved in this study, matching was probably more difficult than it would have been had the subjects differed markedly from each other in Rorschach performance. A better-controlled study would probably show higher success in matching but it seems doubtful that profiles from the Behn would be sufficiently like those from the Rorschach to meet standards of reliability demanded for individual prediction. Nevertheless, the generally better-than-chance matching of the two protocols suggests that both series seem to be calling for the same patterns of response. One can infer then, that the kind of response

TABLE III—Matching by Six Judges of Ten Behn and Ten Rorschach Protocols

N = 6 Judge	S%	Probabilities	C	P.E.	Maximum Value
A	100	1/10,000	.95	.03	.95
B	60	5/10,000	.86	.05	.95
C	40	P = .015	.59	.16	.95
D	40	P = .015	.59	.16	.95
E	40	P = .015	.59	.16	.95
F	50	P = .003	.80	.08	.95

Mean No. of Correct Matchings = 5.6.
Probability that the Mean No. of correct matchings resulting from six independent trials will be as great as 5.6 or greater is less than .001 (Chapman's Tables).

elicited by inkblots and extrapolated to every-day living is fairly stable despite objective differences in the blot series.

V. Conclusions

Only limited conclusions can be drawn from the above results concerning the equivalence of the two blot series. This is partly a function of the limitations of this study which include a motley sample, difficulties in coordinating various scoring categories, a limited number of cases, as well as difficulty in finding suitable statistical expression for the similarities between the Behn and Rorschach protocols. It is clear that the two blot series elicit in general similar responses from subjects. Yet, it is difficult to decide the extent of similarity necessary for successful individual prediction. In objective tests reliabilities of the order of .90 are required. The Behn and Rorschach blots do not appear to have a correlation of that order even within the framework of this modest study.

An important problem hitherto unresolved in the area of projective techniques hinges on acceptable criteria for tests to be used for pre- and post-examination or for studies of therapeutic progress. Until some progress is made toward settling on suitable criteria for alternate or parallel forms of projective methods, it is doubtful whether the Behn can be unqualifiedly employed as an alternate form of the original Rorschach in situations demanding individual prediction. An example of this dilemma could emerge from use of the Behn to evaluate therapeutic progress. A major sign of such progress would be an increase in the patient's FC responses or a change from C to FC. Yet, the Behn seems by its very stimulus properties to elicit more FC from subjects and hence the precise evaluation of change is impeded by this difference between the blot series, especially since it is difficult to ascertain the absolute constant difference between the two series.

Despite the apparent limitations of the Behn as a precise alternate form for the Rorschach, it can be fruitfully employed in a host of ways which can help the clinician check doubtful aspects of a Rorschach protocol or enrich his understanding of the patient's capacities and limitations. It can serve as a technique for Testing the Limits without spoiling subsequent readministration of the original Rorschach. The individual who produces no color responses can be given selected Behn cards to see if he can succeed on this simpler series. Points of scoring can be checked as can particularly significant dynamic trends in the content. The Behn seems admirably suited for the kind of control tests that both Rorschach (1942) and Zulliger (1941) have advocated. Further research on the properties of the Behn or the other alternate series seems especially desirable if these forms are to be most effective as control or auxiliary tools in Rorschach administration.

Summary

In a preliminary effort to evaluate the suitability of the Behn-Eschenberg inkblots as an alternate form of the original Rorschach series, three approaches were used. Both Behn and Rorschach were administered to ten subjects and the group profiles on the various scoring categories were tested for significant differences. Twenty-three cases from Zulliger's manual on the Behn were added to

these original ten double protocols and the various scoring categories were correlated. Finally, to incorporate a "global" approach, the psychographs from ten cases administered both Behn and Rorschach were given to six experienced judges who were to match the psychographs from the same person. Results from the first approach indicated marked similarity of group profiles from the Behn and the Rorschach. Correlational procedures indicated fairly high relationship for determinants although the magnitude of the relationships do not seem sufficiently high for individual prediction or use of the Behn as an alternate form. Results from the matching study again suggest that the two tests tap much the same pattern of response from subjects. It is felt that the evidence suggests that the Behn has only limited use, without further research, as an alternate form of the Rorschach. It can serve fruitfully as a control technique or as an auxiliary means of checking dubious features in a subject's Rorschach as a form of Testing the Limits.

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American Versus English Mosaics

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Last summer the writers of this paper and Dr. Margaret Lowenfeld viewed a collection of Lowenfeld mosaics made by American children. It became evident to us that there were striking differences between American children's patterns and those of English children.

We have attempted to demonstrate these differences by a classification and resumé of two hundred and fifty Mosaic patterns made by American, Sewanhaka High School children of ages thirteen to eighteen years, and studied with reference to contrasts evident in looking at a similar group of English children.

Of our two hundred and fifty patterns we have fifty-nine (23.6%) symmetrical in form and color. We have thirty-eight (15.2%) symmetrical in form but not color. We have twenty-nine (11.6%) attempted symmetrical patterns but with errors which make them unsuccessful. This totals one hundred twenty-six (50.4%) of abstract patterns. The English totals in the same age group with which we are comparing these is 90%. The English successful abstract is 82.6% as against our patterns which were successful symmetrically in form and color of 23.6%.

The next large difference apparent is in the proportion of representational patterns made. Our children made forty-three (17.2%) representational patterns. The English children made 7.05% of these.

We come to another type of patterns, not included in our percentage table of English patterns. These are spoken of by Dr. Lowenfeld as denoting early childhood or mental defect. They are the Prefundamentals of which we have eleven. Of these eleven we have I.Q.'s of 80, 50, 75 and 76. The other seven children were above 90 I.Q.

Of the Single Fundamentals we have seven, one of these children had a 61 I.Q. and the other six are above 90 I.Q.

Of the class: Several Fundamentals and small patterns including fundamentals, we have twenty. Of these there are I.Q.'s 52, 85, 75, 54, 75, 81, 62 and 85. The other twelve children are above 90 in I.Q.

Of the class: Several Small Patterns not including fundamental, we have twelve. Of these one has I.Q. 77 and one 87. The other ten are above 90 I.Q.

This adds to fifty of these relatively unorganized patterns and of these only fifteen are made by children of low I.Q. Of the other thirty-five, four children show an I.Q. over 120.

Our last large classification also shows striking difference from the English standard. This class is called incoherency by Dr. Lowenfeld as she says, "Pieces are grouped on the tray at random showing no coherent idea or order." Our designs which we put in this class are also grouped without symmetrical order, but it is evident in studying them that many are far from lacking in idea or in artistic merit. They are patterns though of an entirely free order.

Of these we have thirty-one (12.4%) as against 2.8% of the English. It is of interest to note

that out of these thirty-one we have I.Q.'s 65, 88 and 87. All the twenty-eight others are above 90 I.Q. and ten of these are above 120 I.Q.

As to neurotic elements shown by the children who made these so called incoherent patterns, we also have data. In studying them we divided them first, with the help of an American artist, into artistically good and artistically poor efforts. We find ten of these are artistically very pleasing.

Of these ten: one boy is in conflict with his family because he wishes to enter the priesthood. Another boy is unhappy at school, uncertain as to his future, his father is dead. The other eight children were most obviously happy and successful.

That leaves us with eighteen children of normal I.Q. who made incoherent and not pleasing patterns. A summary of these cases shows us:

		I.Q.	
1.	Boy	93	serious truant.
2.	Girl	114	broken home, under unhappy circumstances for years.
3.	Girl	121	hysterical episode, uncertain as to her plans.
4.	Boy	116	failing and cutting.
5.	Girl	90	weeping, unhappy, fearful.
6.	Boy	109	blocked, inaccessible.
7.	Girl	104	cutting, antagonistic at home, few friends.
8.	Boy	?	dementia precox, hebephrenic, last year in State Hospital, now able to carry abbreviated schedule in school.
9.	Boy	100	unknown.
10.	Boy	100	stutters very badly, is in process of altering his school course.
11.	Boy	95++	has had psychotic episodes.
12.	Boy	94	ambitions entirely removed from reality.
13.	Girl	98	silly, disturbing class behavior, self-conscious.
14.	Girl	110	great antagonism at home.
15.	Girl	100+	great antagonism at home.
16.	Girl	127	recent depression.
17.	Girl	129	broken home, ambitions out of touch with possible reality.
18.	Boy	114	hates school, does no work, wants to leave.

That is, every one of these incoherent and artistically poor patterns are made by children who do show troubled and neurotic lives.

We can report on a smaller number of children of two younger age groups. These are drawn from grade schools of nearby districts.

EIGHT TO ELEVEN YEARS

	English 147 cases	American 74 cases
Abstract	80.7%	5.4%
Representational	9.0%	71.6%
Incoherent	10.3%	5.4%
Single patterns, including fundamental		1.3%
Fundamental		9.5%
Prefundamental		6.8%

FOUR TO SEVEN YEARS

	English 128 cases	American 82 cases
Abstract	40.2%	1.2%
Representational	19.7%	55.0%
Incoherent	44.0%	16.0%
Single patterns, including fundamental		2.4%
Fundamental		2.4%
Prefundamental		23.0%

We realize that these small numbers are inconclusive but believe that a significant difference in type between the production of English and American children is indicated.

Our children make a strikingly smaller proportion of abstract symmetrical, balanced, conventional patterns and when our children do make this type of pattern, it is much more apt to show a color or piece variant which breaks its symmetrical perfection. From the earliest age our children make a much higher percentage of representational patterns. The third striking difference is that our children make a large percentage of patterns

showing no coherent order. This is the type which has been considered in England to indicate mental or emotional disturbance. The significance with our children seems to be entirely different. Many of our most stable children make this pattern.

The significance as to national personality characteristics and the differences in the previous training and mental habits of the children of the two nations may be strongly pointed up in these mosaic contrasts.

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A Further Study of the Validity of Human Form Drawings In Personality Evaluation

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INTRODUCTION

An earlier study (1950) was undertaken to determine if objective criteria could be established which would differentiate between human form drawings of a normal and a schizophrenic population. The methods which were used to arrive at such criteria and the criteria themselves will not be presented in detail here since it has already been described in the original study. Certain structural aspects of human form drawings were isolated which statistically differentiated between normals and schizophrenics. Three lists of items were derived. One list distinguished between normals and the total schizophrenic group. A second list of items discriminated between normals and hebephrenics. A third list was composed of items which discriminated between normals and paranoids. When these items were used as a test, it was found that they successfully differentiated between the groups under consideration.

The present study is designed to test further the validity of these findings. The prediction here was that the items found significant in the previous study would similarly discriminate between a new normal population and a new schizophrenic population.

PROCEDURE

The population in the present study as in the previous one was composed of women. The control group consisted of 45 student nurses as compared to 78 in the previous study. The pathological group was composed of 37 women who were diagnosed as schizophrenic. This compares with 38 in the previous study. The diagnostic breakdown of schizophrenics for both studies is presented in Table I. This table demonstrates some differences in the proportions of hebephrenic and mixed types in both studies. However, the proportions of paranoid, catatonic, and simple types are approximately the same.

The age ranges and means for subjects in both studies are presented in Table II. The normals and schizophrenics in the original study are fairly well equated with their counterparts in the present study.

Intellectual level was controlled

TABLE I—Schizophrenic Subgroup Distribution for Original and Present Studies

Schizophrenic Subgroup	*Original Study (N = 38)*		*Present Study (N = 37)*	
	No.	%	No.	%
Paranoids	18	47.3	19	51.4
Hebephrenics	12	31.5	7	18.9
Catatonics	6	15.8	5	13.5
Simple	1	2.6	2	5.4
Mixed	1	2.6	4	10.8

TABLE II—Age Ranges and Means for Subjects In Original and Present Studies

	Original Study		*Present Study*	
	Mean	*Range*	*Mean*	*Range*
Normals	20.4	19-37	20.7	19-26
Schizophrenics	28.6	20-43	29.1	16-44

in that a minimum of average intelligence was required. This was evaluated in the same way as in the previous study. The nursing group was considered to be of at least average intelligence by virtue of the fact that they had completed high school and at least one year of nurses training. For the pathological group, optimal or premorbid intellectual level was determined either by Wechsler-Bellevue results, Rorschach data, graduation from high school, or high occupational status prior to illness.

The drawings were procured from the subjects in the same manner as in the previous study. The drawings were administered individually. They were requested to "Draw the figure of a whole person." Questions such as "Shall I draw a man or a woman?" or "Shall I draw it full face or profile?" was countered with a noncommittal "It's up to you."

The drawings of the normal group and the total schizophrenic group were scored on the basis of the list of items which were found to differentiate between these groups in the original study. The mean number of items for each group was derived and the reliability of the difference between means was calculated.

The normal drawings and the drawings made by the paranoids were also scored using the list of items which were originally found to discriminate between normals and paranoids. The data were treated statistically in the same manner.

A comparison between normals and hebephrenics was not attempted in this present study because of the small number of hebephrenic cases.

RESULTS

The normals and the total schizophrenic group are successfully differentiated at the one percent level of significance (Table III). The means and standard deviations of the two analyses are very similar.

The normal group and the paranoid group are successfully differerentiated at the five percent level of significance (Table IV). This represents a slightly decreased reliability over the original difference which was at the one percent level. There was a tendency for means and standard deviations to

TABLE III*—Significance of Differences Between Normals and the Total Schizophrenic Group In Original and Present Studies

	Group	N	M	SD	SE_M	SE_{Diff}	*t*	P
Original Study	Normals	78	13.51	2.06	.24	.51	8.82	.01
	Schizophrenics	38	9.00	2.74	.45			
Present Study	Normals	45	13.84	2.75	.41	.60	6.37	.01
	Schizophrenics	37	9.89	2.75	.46			

* These results are based on the use of the list of 27 items which were found to significantly differentiate between the normal and total schizophrenic groups in the original study.

TABLE IV*—Significance of Differences Between Normals and Paranoids In Original and Present Studies

	Group	N	M	SD	SE_M	SE_{Diff}	t	P
Original Study	Normals	78	4.77	1.92	.22	.37	7.30	.01
	Paranoids	18	2.11	1.22	.30			
Present Study	Normals	45	6.33	2.40	.36	.78	2.24	.05
	Paranoids	19	4.58	2.93	.69			

* These results are based on the use of the list of 18 items which were found to significantly differentiate between the normals and the paranoid group in the original study.

be higher for both groups in the present study as compared to the previous one. However, the differences still remain at a reliable level of statistical significance.

DISCUSSION

The present study confirms the validity of the results which were found originally in comparing normals with the total schizophrenic group. The data presented in Table III reveal practically no change in the comparison of the normal group with the total schizophrenic group in the present study, as compared to the earlier one. Table IV, while demonstrating a five percent level of confidence in discriminating between normals and paranoids in the present study, nevertheless reveals statistical changes in the present study as compared to the previous one. In the present study, means and standard deviations are higher both for the normals and paranoids, with a t value lower than previously. Furthermore, the mean of the original normal group varies only slightly from the mean of the paranoid patients used in the present study. It is therefore evident that the list of items which discriminated between normals and paranoids is not as reliable as the list which discriminated between the normals and the total schizophrenic group.

The authors desire to reinforce certain cautions presented in the previous study. The check lists that have been previously presented are not offered as infallible techniques for personality diagnosis. Consequently, any mechanical use of these lists would be nonclinical and unscientific. The clinician can use the present findings as suggested leads in contributing to the acceptance or rejection of a diagnostic hypothesis. To extend this modest claim would be untenable.

SUMMARY

The present study was designed to explore further the diagnostic validity of items which had been found to differentiate significantly between normal and schizophrenic human form drawings in a previous study. The results of the present study confirm the earlier findings which successfully differentiated the human form drawings of normals and schizophrenics.

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Prediction In the Rorschach Test[1]

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Prediction has always been one of the major aims of psychological diagnosis. Omitting from consideration for the moment specific techniques of diagnosis and their theoretical premises, the diagnostic task by itself seems to have both an immediate and a predictive aim. The first might be articulated as "What are you like?"; the second as "How will you act?" In technical language: What needs and abilities are characteristic of the testee? Then, how will he apply this equipment toward achieving basic levels of adjustment and how will he react to the demands which his specific situation in life make on him? One suspects that in these two aims of diagnostic personality study an enduring motive manifests itself impelling the investigator to inquire, to correlate observed data and to cull a predictable course of events from his observations. He attempts to control his environment by drawing up its orderly image as *science* or by affecting its futural course through *manipulation*.

With the advent of dynamic and organismic concepts of personality and their application to diagnosis, the scope of prediction broadened and diversified. Ability, to which psychologists had geared their predictions before, ceased to be regarded as an isolated function which could be measured after having been duly isolated (Wyatt, 1948). This earlier concept of ability might have referred to the testee's manual dexterity and predicted his success in an industrial job; or predicted his success in school from a measure of his intelligence; or, from a number of circumstances in his life history (mostly socio-cultural in nature) predicted his adjustment to specific social obligations such as *marriage* or *probation* following a release from a penal institution (Horst, 1941). In the light of new insights, largely owed to psychoanalysis and organismic psychologies, these abstracts of behavior called abilities turned out to be so many fondly held myths. Ability has now become an integrative function, a line above which adjustment is socially visible. Its genetic roots might be more or less definite; yet the final product, performance, would be determined only by a vast parallelogram of forces. How the individual behaves will ultimately depend on what meaning his skill or intelligence have for him as well as on the situation in which they are applied. As often as not the individual will be unconscious of that meaning even though, as a product of his entire life history, it will determine the final pattern of integration between his needs, native abilities, and the external pressures of his life.

Prediction hence became the "forecasting" of adjustment. In a variety of studies such as Schafer's on hypnotizability (1948) and Pio-

[1] Read at the Convention of the Eastern Psychological Association in Worcester, Massachusetts, April, 1950.

[2] Reviewed in the Veterans' Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are a result of his own study and do not necessarily reflect the opinion or policy of the Veterans' Administration.

trowski's on job selection (1943), special conditions were stressed but were predicted in terms of total constellations of personality. With the development from the elemental psychometric approach to the diagnosis of personality as it grew up in hospitals and child guidance clinics, the emphasis in prediction was on the understanding and the management of psychopathology. It has now become common usage to charge clinical diagnosis with the prediction of the probable course of a disturbance—*prognosis*—and with the prediction of therapeutic effects. This again implies the determination of certain therapeutic procedures through psychological methods. As we shall see later, the diagnostic study of the dynamics of personality, with its demonstration of conflict and of the sources and probable genesis thereof, contains in itself important elements of prediction.

As prediction tests the relationship between two sets of facts, the ability to predict behavior becomes but another term for the validity of the relationships propounded. Consequently, correlation has come to be almost synonymous with prediction. Problems peculiar to the global approach to personality have aided in this in that the only evidence feasible for the conclusions derived from global methods—psychotherapy or projective testing, for instance—was prediction of something equally global, namely: the individual's prospective conduct in some area of life. With this trend and with the demands made on clinical diagnosis mentioned above, prediction has become one of the major concerns of modern psychological diagnosis and its celebrated acme of sophistication (Wyatt, 1950). As the most potent, most complex diagnostic instrument, the Rorschach Test especially was charged with the new predictive task.

Well in keeping with the folkways of our field prediction was claimed, and proved by correlation, without much consideration of the logical premises of such a claim. Important contributions have been made toward a systematic analysis of prediction by Allport (1942), by Cotrell (1941), and by Stouffer (Horst, et al. 1941). So far, however, these studies have had little effect upon the routine use of this concept. There would seem to be no prospect for determining the relevance of predictions from the Rorschach Test—nor from any other test, for that matter—if we do not first clarify the assumptions upon which such a prediction rests. I shall attempt here to formulate the premises of diagnostic prediction in terms of three questions: (1) What is the meaning of prediction?; (2) What are the means of prediction?; and (3) What is the validity of predicting future events? In other words, there is not much point in speaking of prediction until we first find out *what* prediction means, *how* it comes about and *to what extent* it works.

Concerning the meaning of prediction, I should like to sum up briefly what I have discussed more extensively in an earlier paper (Wyatt, 1950). Prediction can be more precisely defined with the help of two pairs of concepts:

(A) Prediction may aim at events which lie ahead in time, that is, in the objective future. Thus we may predict that an adolescent who shows marked compulsive traits now, will develop acute neurotic difficulties when faced with the adaptive tasks of adulthood.

(B) We may also aim to predict traits, attitudes and events from test results, or from the observation of other traits, attitudes and

events. We may predict, for instance, that a person is concerned with status when he refers frequently to emblems, coats of arms and other symbols of rank in the Rorschach cards; or we may infer the same concern with status when in his talking he stresses his connections, the standing of his family and his attention to the status and the titles of everybody around him. What we predict may actually belong to the past, such as traumatic experiences in childhood, or may be operating right here and now, such as a need for status. A good deal of our diagnostic clinical work is concerned with this kind of "cross-pattern prediction," as Allport (1942) termed it.

Prediction can be derived from group trends. This is the actuarial prediction implicit in most paper-and-pencil tests. In contrast, there is prediction from a single case. Present psychological diagnosis contains elements of both: actuarial data in profiles, scatter, or in the "normal" value of Rorschach signs; the organization peculiar to the study of the individual case in the process of interpretation. Case study prediction (or interpretative prediction as it should better be called) in essence attempts the integration of many traits, through a flexible trial-and-error procedure, in order to arrive at a plausible configuration, an "as-if" of motives and behavior, a workable model of personality. Seizing upon this configuration is often called "intuition," fondly or derogatorily, as the case may be.

It seems that the data of observation are not sufficient to produce a pattern just by being arranged and rearranged like the spangles of a kaleidoscope. The various closures and sub-closures of the diagnostic process will be accomplished only in the framework of an independent theory of personality, such as psychoanalysis.

Before we approach the means of prediction in the Rorschach test, it should be made clear again that they must necessarily be a function of the scope of the test as an instrument of personality study. What aspects of personality does the Rorschach Test reflect? With what consistency and with what variation? No attempt has yet been made to answer these questions comprehensively, partly because of methodological obstacles and (what is so frequently overlooked) because of perennial institutional and financial limitations which effect the breadth and scope of research in the field of personality. At present the use of the Rorschach Test is often based on the more or less implicit assumption that the test reveals, as it were, the enduring essence of the personality. This position not only treats the cues which the test provides as if they were revealed, absolute psychological truths but also seems to involve the assumption of a latent, unchanging blueprint of personality, constant and enduring amidst all temporary adjustment. Such a concept, however, is more akin to the platonic concept of the soul than to modern dynamic hypotheses and does not fit the clinical experience which it is to organize.

Prediction can be made on the basis of the Rorschach Test by relating a certain profile of Rorschach scores to a specific incident of adjustment such as recovery from illness with, or without, the benefit of a specific treatment. The prediction of therapeutic gain from insulin treatment provides an example (Piotrowski, 1941). Limitations of statistical technique do not allow us to handle a complex configuration of scores such as the Rorschach Test would demand. The

interpretation of individual Rorschach categories, such as Form or Color, is often criticized as being a highly dubious procedure. We might argue, however, that it certainly makes much more sense if Rorschach signs—or rather, the perceptive-apperceptive performance for which they stand—are taken to represent a range of tendencies, a vector, a mode of responding or integrating rather than a particular trait or attitude. The latter assumption would certainly necessitate a theory of personality both exceedingly cumbersome and unrealistic. From this point of view, then, it would seem perfectly plausible that a category like Form or Color should vary within a wide, yet definable, range of meaning. Each category receives its ultimate meaning from the total configuration of the test performance which it helps determine while being determined by it. This makes the traditional statistical Rorschach summary something of an artifact as it fails to account for such dimensions as sequence or symbolic relevance of the content. But above all, it glosses over and covers up the relative grossness of our scoring categories in which the same W sign might stand for two almost antithetical psychological processes.

Despite these two major liabilities, most Rorschach-derived predictions reported in the literature still leave the impression that many of the assumptions customarily made in the use of the test are valid. The problem arises *to what extent* they are valid and what conditions affect the variance of their validity. We cannot enter into this core problem of diagnostic psychological testing at this point. Instead we shall attempt to define the nature of prediction from the Rorschach Test by means of two examples. In a study on the prediction of therapeutic success Harris and Christiansen (1946), administered a battery of tests, of which the Rorschach Test was one, to a group of patients slow in recovering from various physical illnesses. The aim of the study was to predict those in the group who would gain from psychotherapy. Together with the analysis of other tests, the Rorschach scores were evaluated through quantitative ratings. The weights of the rating apparently were based on an inspection of the characteristic distributions of such scores among the two groups. The attitude of patients who did not respond well to therapy was epitomized as follows: "I am an important person, but I am not in control of my destiny. I am surrounded by hostile forces, victimized by other people and my own body and mind betray me." The authors categorize the unfavorable group as "sub-clinically psychotic" and conclude that their measures concern "stability and modifiability in the individual, more or less independent of the clinical diagnosis." This observation should give pause to all psychological Ahabs who hunt for a quantifiable white whale. At any rate, the description fits closely to that of patients with defective egos as described by Ives Hendrick (1936). Indeed, the Rorschach signs are those from which one would infer a weak or deficient ego. We might say, then, that the patients who did not respond to psychotherapy are the ones who are psychologically more deviant, or more "ill." We observe further that the *meaning* of test differences accrued from a theory above and beyond the test signs. While not specified, it is obviously the systematic framework of psychoanalytic dynamic psychology.

In another paper by Piotrowski (1941) the success of insulin the-

rapy with a group of schizophrenic patients is predicted. The instrument of prediction is the Rorschach Test which is not only evaluated in the usual manner, but enlarged by additional categories. Two groups of predictive signs were set up to deal with fundamental intellectual traits and with the patient's sensitivity and responsiveness to environmental changes. While ingeniously conceived, three out of the six categories do not seem to be specific to the Rorschach Test. That no percept be used more than twice, as the category *Variety* demands, is psychologically a pertinent idea, but could easily fit material other than that of Rorschach apperception. The rationale upon which Piotrowski's very successful prediction is based, consists in the assumption that the less a schizophrenic patient has deviated from the norms of the healthy adult, the greater will be his improvement. The psychological deficit of such a patient is less ominous in that his reactions to his environment are inhibited by fear of failure. Conversely, one must conclude that the patient who does not improve is the one whose ego has disintegrated rather than succumbed; he is more deviant in a psychological sense and hence more "ill".

In the case of both predictions, the Rorschach Test reports the present status of the patient. On the basis of theoretical assumptions, independent of the test, adjustive reactions could be inferred from the patient's present condition. Harris and Christiansen's paper actually sought correlations between the test scores of patients and the effect of psychotherapy as rated by the physician, after the fact, as it were. In other words, it was Allport's *postdiction* rather than true prediction. Piotrowski's blind diagnosis implied prediction more directly. In either case, however, the data surrounding the adjustment predicted were relatively clearly defined. In one case, they consisted of improvement in therapy—an accomplished fact – as rated by the physician; in the other, they concerned a relatively standardized procedure such as insulin therapy. Clinical prediction, however, virtually always aims at (and claims to foretell) complex conditions in a state of change and growth.

The qualities common to the means of prediction become quite clear when they are specified and isolated as in Beck's (1948) suggestions about Rorschach F Plus and the Ego in Treatment. F plus, according to Beck, is "representative of the unifying psychologic core in personality; that which directs its course and pulls it back to center, to reality, to social canons". An excellent definition; but one can almost see, as it proceeds, how it expands upon what well may be the meaning of F plus—its vector—through inference from theories independent of the functional equations of the Rorschach Test.

When the conditions of adjustment are not specified but open as in the prediction of psychotherapy, or as in general, over-all prognosis (which has become a standard requisite of modern clinical diagnosis), then a prediction in time—a "true" prediction—is required. This brings us to our third question: how is prediction possible? On the basis of our operations we may be safe in assuming that in prediction the dynamic constellation of the present state is expanded, with the help of theory, into the likelihood of future adjustments. If the ego can manage its complex job effectively at present, as mirrored in the Rorschach Test, and if, with

the exception of one area in which unsettled conflicts of an earlier developmental level force the ego to face old problems with the inadequate means of childhood (and thus generate anxiety, or a symptom, or both) *then,* on the basis of the psychoanalytic theory of neurosis, the conclusion is justified that the patient will benefit from psychotherapy.

So far so good. But from which psychotherapy? And will he benefit from a psychotherapist who from the vicissitudes of his own development has retained a certain harshness or from one who for analogous reasons is inclined to be indulgent? What will happen if this patient loses his job for reasons beyond his control (without unconscious conspiracy against himself) or if he advances in his job? What if his aged mother moves into his household, or if a son is born to him? There is no gainsaying that our patient will spend a much greater portion of his time in the business of living than in therapy. When the effect of his therapy becomes apparent (which will not necessarily be at its termination) his psychological state will have to be plotted on a new parallelogram of forces. The data upon which our prediction was based will only be one factor in it. The therapy of our patient (which at best can only be predicted in broad generalities) and the intervening events of his life will have added incalculably to the variance. The further we move from our present diagnosis of personality, the more generalized will our predictions have to become, the more will we have to speak of "tendencies" and "liabilities" leaving open an ever-widening dynamic space for what factors may accrue from elsewhere and, in conjunction, produce the actual future reality. This does not mean, of course, that our predictions are fruitless and meaningless but only that their relevance will be commensurate with the proper appreciation of a psychological field which is much larger than that of our diagnostic results.

In summary, then, the superiority of the Rorschach Test as a diagnostic instrument does not lie in its greater capacity for prediction per se but in the manifold sensitivity with which it reflects on several planes the complex integrative function of the ego. With the help of the test we may obtain an adequate picture of the testee's present state. Applying to it a theory of personality, we may draw further conclusions from the present state and thus expand it into postdiction or the prediction of future adjustment. *Diagnosis, however, is limited to that period in time when it is undertaken. True prediction of subsequent adjustment must become more a prediction of tendencies and trends the further into the future it aims.* How far we can go (and there apparently is a good deal we have yet to learn) depends on a better understanding of the psychological premises of the Rorschach Test itself and of the meaning and consistent variance of the apperceptive process which the test calls forth. Until we know more, we should follow the advice of Candide, who had been exposed to a great deal of heedless optimism in his day, and cultivate our diagnostic garden.

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BOOK REVIEW

Maslow, Paul, *The Individual Through the Rorschach.* Volume I of The Life Science. New York: Paul Maslow, 1951. pp. 134.

This volume is a mimeographed, spiral bound publication. Unfortunately, there is no preface or introduction to indicate the author's purpose in presenting this volume so that the reviewer must judge the volume simply as it impresses him.

This is a treatise on the interpretation of the Rorschach Technique. It does not deal with the administration and apparently is not geared to the beginner nor to those not familiar with the author's approach. After a brief, somewhat generalized introduction to the Rorschach, the author discusses interpretation under fifty headings such as daydreaming, submissive introversion, reason, danger feelings, frustration, laughter, sublimation, verification, judgment, cell equilibrium, cell personality, and organic homeostasis. Unfortunately there seems to be no recognizable organization to the presentation. Much of the material is philosophical and in no way tied with the Rorschach as such. As a result, the reader often gains the impression that a vague mysticism underlies Rorschach interpretation. From a practical point of view this lack of organization combined with the philosophical approach also results in confusing the reader and frequently requiring him to seek unobtainable clarification in the preceding text. There is an abundance of statements such as, "Mindwandering is common among people unwilling to grapple with grim reality or engaged in effortless routine. The baffled, the wishful, the rebuffed, the bored have little or no urge to enter into current affairs." The discussion related to the Rorschach seems equally generalized and at the same time "pigeon-holing." Samples of some of these are such as, "Human and human-like f l e x o r movements (FM) are made by a particularly submissive type of introvert." "The FM syndrome is a collection of the worst features of introversion. The FM introvert has a low frustration tolerance for harsh reality, flees a situation of stress and inhibits emotions; . . . " "If he attends a social gathering, speaks in front of a group, or performs in a play he is filled with ominous premonitions." "The CF introvert, for instance, jumps when a book is unexpectedly dropped while another person may not even hear it."

There are many numeric references to the literature but the list of references is not to appear until the fourth volume. Since there is no indication of the content of the following volumes it is not possible to say whether such delay of the reference list is justified for purposes of integration but the reader of the present volume is left with a lack of closure.

At no point does the author indicate that he has any basis for his interpretations nor does he indicate in any way that his interpretations need investigation or validation. There is no reference to the fact that the Rorschach Technique itself is still in the earliest stage of validation investigation. Such omission in a publication in a field struggling to incorporate a sound scientific foundation is unfortunate. In a volume that refers to itself as "The Life Science" it seems inexcusable.

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THE TAT NEWSLETTER[1]

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Editorial Note: It might be appropriate to begin this editorship by paraphrasing Bob Holt's final words as editor: I think that this will be fun; and I want to elicit your support, your interest, your news items, and your encouragement. My editorial policy—every editor should have some policy—will be to keep things pretty much as they have been. There are certain characteristics of the *TAT NL* which will be continued: (a) The *clearinghouse* function of the newsletter is an important one. In order to continue this type of news, we ask that people in all parts of the country who have TAT records available for loan to others for research purposes so inform us, especially if they have records for groups of subjects for whom test data are not ordinarily available. (b) A feature that has distinguished the *TAT NL* is the annual *bibliographic* issue. Readers may expect the supplementary TAT bibliography for 1952 in the fourth number of this volume. From our readers, we ask assistance in sending us bibliographical notes on their completed studies or dissertations if these studies are unpublished. (c) At the heart of the newsletter idea is the exchange of information on *research currently in progress.* We shall print as much news of this type as we can, which means that we shall print as much as is sent in to us. This informal interchange of news of contemplated or ongoing studies is not only the primary purpose of the *NL,* but it is the kind of material that gives all of us who work with projective thematic tests the feeling of closeness and identity with one another. Please have a very low threshold for initiating correspondence with me about projects contemplated or begun.

About the only thing that I can add to this statement of policy is that I shall attempt to mention the MAPS method every once in awhile. Now for some news.

Dr. van Lennep's visit: I am loaded with news about Dr. D. J. van Lennep of the University of Utrecht. I followed him around during his three days in Los Angeles recently, like Boswell, and I now pass on my observations. First of all, I must report that he is an amazing person. He has a breadth of interests, a catholicity of taste, and a lack of fear of unconventional psychological ideas not often seen in these parts. (One day he lectured to Bruno Klopfer's class at UCLA about some intriguing, but esoteric, concepts of projective phenomena and the next day he talked to J. P. Guilford at the University of Southern California, across town, about factor loadings, stanine scores and pilot selection.) I shall attempt to organize my impressions under the following headings: his new tests (the Room Test, and his change-a-picture test); additional information about the Four Picture Test; and some of his thoughts about the phenomena of projection.

[1] See Editorial

The Room Test. Three years ago I wrote van Lennep about a test idea with which I had been experimenting; I called it the One Figure Test. It consisted of several background pictures and one separate cut-out figure (soon to be published). The subject's task would be to take this one figure, put it on the background pictures, and tell a story of what is happening from the point of view of this figure. The examiner could tell the subject that the figure was to represent the subject, the subject's father, etc. The object would be to attempt to manipulate the subject's identification and to see the correlates in projection. To this, van Lennep replied:

> I was most interested in the description of your one-figure test. I am struck by the fact of the parallelism of our ideas . . . Ten years ago in Paris I visited an exhibition of scenes. I was very much fascinated by one of them and noticed, that in my imagination I stood somewhere in the scenery and just on that place I was experiencing all sorts of strong emotions. After a moment I realized, that this had been a fantastic projection test. A friend of mine, whom I showed the same scenery placed himself on a quite different spot with other emotions. I contacted the artist and asked him to paint three different scenes, representing a back street (with a dubious hotel), and a terrace of an old castle in the moonlight, and a picture of a modern house with open doors. The instructions were to see oneself in one spot or the other in those pictures and to describe one's own feelings and to tell what one would do in those situations. Curiously enough, the pictures were too French oriented for Dutch subjects. Then I had some other pictures made by a Dutch artist, which gave better results indeed. I am sending you a photograph. As you will see I put in the picture a figure in an extremely lonesome attitude . . . and the subject has to stand somewhere and invent a scene.

The picture may be described as follows: there is a large, high-ceilinged room. The furniture is formal; there is a table with chairs in the center of the room, a chair against the wall, and a large cabinet. There are two doors, one partly open. The colors in this room are predominantly brown. There is one figure in the room: he is on the near side of the room, standing at the edge of the carpet. He is dressed in a business suit; his hands are in his pockets. His expression is serious, but ambiguous. Beyond this room, one can see, through drawn-back curtains, another room. It is quite different; it is flooded with bright light; the table and chairs seem modern.

Dr. van Lennep designed this to get at the subject's attitude toward himself. He feels that this is possible because of its two features: the clarity and elaboration of the background; and the ambiguity of the situation (door ajar, one room modern and the other old-fashioned, the man on the edge of the carpet). He believes that the man being in an ambiguous and indecisive situation evokes the subject's conflicts.

Three sorts of questions are asked of the subject: (1) Tell me about the man. Why is he standing there? What is his mood? What is going on? (2) Imagine a second person in this room. What sort of a person would it be? Who would it be? What would happen? (3) If you had to live in this room, what changes would you make to make it more habitable for you?

Readers who are interested in obtaining copies may do so from Dr. van Lennep. I believe he told me that the cost was $2.50.

Change-A-Picture Test: Just a brief note about this device. This consists of ink-blots projected on

a screen in a semi-darkened room. (I have seen the blots and they are quite beautiful. They differ from the Rorschach materials in being perhaps more striking and in that the blot occupies the entire screen, that is, it is not the conventional blot simply in the center of a white card). The instructions are something like this: "You will see a picture that has no meaning and I want you to tell me how you would change anything about it so that it becomes more pleasant to you." Thus the test situation presents the subject with things made and asks him to re-make it as he likes it. The protocols from subjects that D. J. had with him to illustrate this technique were rather remarkable.

More Information about the Four Picture Test: van Lennep emphasizes the *polyvalent* aspect of the FPT in that the materials are general and permit the subject to make his own concretization about many kinds of relationships and dynamics. The advantage of this is that one does not need so many cards and one can get at any of the subject's dynamics. Secondly, the polyvalence is increased by having the subject give, not separate stories to each of the cards, but one story where the four pictures are integrated and combined. Readers will remember that Card I is an individual with one other; Card II, an individual socially alone (in bed) ; III, an individual narcissistically alone (under a lamp-post); and IV is an individual in a group (in a tennis scene). With these 24 possibilities for combination the subject reveals himself through the meanings he gives the pictures and the order in which he uses them. Dr. van Lennep finds, for example that hysterics seldom start with I, but rather start with III (social loneliness); that compulsives often start with I—he calls I the card with the super-ego figure; that anxious subjects see the hero as winning the tennis match in IV; that the most common order for male adults (12 per cent) is IV, I, III, and II, and that this order is seen even more often in female adults (19 per cent). An interesting side-light is that in Holland the secondary figure in I is very seldom (less than 5 per cent) seen as the mother, whereas in the United States many subjects (30 per cent) see it as the mother. Dr. van Lennep smiled cryptically when he said this.

Dr. van Lennep also mentioned some variations of the basic instructions for the FPT. After the male subject has told his story to the four pictures, he is asked to tell another story (with all four pictures) using one of the *women* in IV as the principle figure. (Female subjects are asked to use one of the men in IV). Two general types of stories are given: those in which the female characters are actually given emotions and interpersonal relationships; and those in which the woman is the hero, but the emotions and relationships start from the men. When these two types of stories are correlated with the judgments of psychologists in relation to ease of emotional contact for male subjects, it is found that the former (or woman) stories indicate easy affective contact, whereas the latter (or man) stories go with bad affective contact.

Completely different instructions for the FPT may be given: the subject is asked to give the most aggressive story he can imagine. This procedure is similar to the technique of "forcing the limits" (for hostility, sex, etc.) which may

be used with picture-thematic materials.

The Phenomena of Projection. Dr. van Lennep's thinking about projective phenomena is set down in its most full exposition in his book *Psychologie van Projectieverschijnselen,* which I don't imagine most of the *TAT NL* folks have read. It is being translated into English and will be published in this country by Grune and Stratton.

Dr. van Lennep has elaborated his ideas about projective phenomena in a most systematic and provocative manner. Eschewing the coining of new words to describe the phenomena he wishes to discuss, he calls the three projective phenomena simply Projection I, Projection II, and Projection III. I shall attempt to present these concepts as I understand them, hoping that I convey the meanings that he intended.

Projection I. This type of projection has to do with our "mood" relationship to our physical environment. One cannot isolate the individual from his world; to know the individual one must know his world; the individual is reflected in his world; the individual and his world are a unit. This type of projection is a one-way relationship between the individual and his world — only the individual has a frame of reference; things, *per se,* do not. "Moods are aspects of our personality by which we are aware of our position in the world and of things we see, and both simultaneously reveal themselves." This type of projection indicates "the way we are situated in the world" and, at the same time, "the world is constantly rendering us our own position." This is the *mood* which we impose on things. (For example, a new hotel room may appear "rejecting"; a week later, it may be "friendly"). This type of projection is nonpathological; it is inevitable in all perception. To tap Projection I, van Lennep believes that actual life situations are best, but that one's responses to visual stimuli such as the Rorschach cards also may indicate how one experiences his world.

Projection II. This type of projection recognizes that the world is populated by other individuals (in addition to "things") and that they have frames of reference of their own. We react to other persons and attribute to them the motivation of our affects. For example, where B threatens A, A will develop self-defense. The "bad" features of what A thinks or feels (threat) will be projected, but the threat itself is not projected, rather B is treated as though threatening. We do not project fright; we call the other frightening. Projection II is thus similar to Freudian projection and the classical formulation of the etiology of paranoia; it is Murray's "complementary apperceptive projection." To get at Projection II, van Lennep feels that we must look to real life mainly, but possibly that pictures with specific and detailed backgrounds like the MAPS materials might work. He feels that pictures are not as real as real life, and thus they are not as threatening and hence less useful.

Projection III. When one uses the other person as a screen on which to re-duplicate himself, he is projecting in this third way. Here the process is not self-defense (II), but self-objectivation. The other is used as an object or a thing; one does not in this process (III) take account of how the other

is, or that he is otherwise. Both good and bad aspects of character are projected. In this type of projection we call the other frightened, rather than frightening (II). Projection III relates to one's need to "objectivate" oneself – i.e., to make the difference between "I" and "me" as real as possible, in the attempt to know oneself completely as one really is. One can never do this, but one keeps trying. (The alternative to Projection III – the attempt to systematize the relationship between our awareness of ourselves and the omnipresence of ourselves – is to forget this distance in such activities as love, orgasm, mysticism, alcohol, etc.) Projection III is best tapped by pictures rather than real life. The TAT and the FPT are most useful here. This is so because a real human used as a screen will be defended against; thus the unstructured picture of a person is the best screen.

Communication. When one is openly aware of the other's being otherwise, can really observe his expressions, realize his uniqueness, listen undefensively to his ideas, and experience him as another person, then one is communicating. When one communicates he does not project. The result of communication is self-realization and growth. Communication is measured in real life and not by pictures.

And now for some news about other people's doings.

Reliability of TAT Ratings: A very interesting dissertation concerned with the "semantic validation" of TAT interpretations was completed recently by Beverly Fest Davenport at the University of Southern California. To put it briefly, six clinical psychologists studied six TAT records (taken from different types of subjects) and decided whether or not each of 250 typical interpretative statements applied to each TAT, making possible an evaluation of what is called "reliable discrimination" among judges. In addition, 26 other clinical psychologists rated each statement as to degree of ambiguity and degree of universality. Her conclusions can be summarized as follows: Judges tended to apply statements rated as universal to any patient, and avoid the use of more specific statements; the statements rated as most ambiguous were those heavily loaded with psychoanalytic terminology, while the least ambiguous statements contained few of these references; statements referring to positive personality traits were absent from the original sample of interpretative statements and raters avoided using statements of this type which had been added by Dr. Davenport; and–this appears to be the most significant observation–there was a statistically significant absence of reliable discrimination. (In no case was an interpretative statement used with complete accord by the six judges to discriminate among all six subjects). She states: "A validation study based on these interpretations would have been doomed to failure (because of lack of reliability), and not necessarily because of faulty hypotheses." She concludes with something about the need for further research into the habits of projective test interpreters. Amen.

A Miniature Chromatic TAT: Here is some news about a modification of the TAT materials by Charles Thompson. Dr. Thompson told me about these and other activities of his at the North Little

Rock V.A. Hospital during a recent visit of his to Los Angeles. His plan is to make three changes in the TAT materials: (a) make them chromatic—he had not seen the work of Glen Brackbill of the University of Colorado with chromatic and achromatic TAT cards so I cannot tell you at present how these two compare in color; (b) make them smaller, specifically to reduce them to about four by six inches in size; and (c) to mount all the small chromatic cards with a spiral binder at the top, so that they make up into a booklet like, for example, the Picture Completion materials of the Wechsler-Bellevue Scale. Dr. Thompson plans to have such materials for both the Murray TAT cards and his own Negro TAT cards. These materials will be available, at least within the Veterans Administration, within the next three months. He told me that he had given the chromatic and the regular achromatic cards to White and Negro normal subjects and that his tentative results indicated the chromatic cards seemed to elicit more material, especially from the Negro subjects.

Haitian TAT Records: Charles Thompson also sent me information about TAT protocols collected in Cap Rouge, southeastern Haiti by Henry Silverthorne of Yale University. These records are only part of rather extensive data which include the Sentence Completion, Word Association, Rorschach test, dream material, and responses to social and cultural questions. Both the TAT-T (the Thompson modification of the TAT) and the TAT-S (the Silverthorne adaptation of the TAT to Haitian peasant life) were given. The stories were taken down in Creole and then translated in English. Copies of some of the records are available. Henry Silverthorne has prefaced the protocols, in part, as follows: "This presentation of TAT stories is made in the assumption that greater general availability of raw data of this kind may eventually lead to more extensive utilization of such material both for general ethnographic as well as psychological purposes. The types of interpretation and analysis made by various investigators are so varied and so often focussed on selected aspects of interest to the particular investigator that the utility of the original protocols for other investigators and other purposes is considerably lessened by their general unavailability."

In addition, I have a note from Bob Holt about these records in which he comments on the incredibly fantastic and pathological nature of the stories, and the large amount of perceptual distortion and dream-like material. He adds that Henry Silverthorne had indicated to him that the subjects who gave these records were not particularly abnormal as far as one could tell.